

Tampa Construction Specifications
Contract 26-C-00029; Howard F. Curren AWTP Aquifer Recharge Wells Construction

CITY OF TAMPA, FLORIDA

NOTICE TO BIDDERS, INSTRUCTIONS TO BIDDERS PROPOSAL, BID BOND, FORM OF NOTICE OF
AWARD, AGREEMENT, PERFORMANCE BOND AND SPECIFICATIONS FOR

Contract 26-C-00029 Howard F. Curren AWTP Aquifer Recharge Wells Construction

These Specifications for the referenced projects come, in part, from uncontrolled sources and may not conform to WCAG 2.1 at level AA. Individuals with disabilities seeking assistance with the individual project plans or specifications should e-mail Contractadministration@tampagov.net.

City of Tampa

Contract Administration Department

Tampa Municipal Office Building

306 E Jackson Street #280A4N Fourth Floor

Tampa, Florida 33602

AUGUST 2026

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NOTICE TO BIDDERS

CITY OF TAMPA, FLORIDA

Sealed Proposals will be received by the City of Tampa no later than 1:30 P.M., October 20, 2026, in the 4th Floor Conference Room, Tampa Municipal Office Building, 306 E. Jackson Street, Tampa, Florida, there to be publicly opened and read aloud.

The proposed work is to include, but not be limited to, the construction of Phase I consisting of one (1) aquifer recharge well (RW-1) and one (1) monitoring well (MW-1); and Phase II consisting of four (4) recharge wells (RW-2 through RW-5) and four (4) monitoring wells (MW-2 through MW-5) at the Howard F. Curren Advanced Wastewater Treatment Plant with all associated work required for a complete project in accordance with the Contract Documents.

The Instructions to Bidders, Proposal, Form of Bid Bond, Agreement, Form of Public Construction Bond, Specifications, Plans and other Contract Documents are posted at and may be downloaded from <http://www.tampagov.net/contract-administration/programs/construction-project-bidding>. One set may be available for reference at the office of the Contract Administration Department, Municipal Office Building, Fourth Floor North, City Hall Plaza, Tampa, Florida 33602.

Each Proposal must be submitted on the Proposal form included in the Specifications and must be accompanied by a certified check or cashier's check on a solvent bank or trust company in compliance with Section 255.051, Florida Statutes, made payable to the City of Tampa, in an amount of not less than five per cent of the total bid, or a Bid Bond, of like amount, on the form set forth in the Contract Documents, as a guarantee that, if the Proposal is accepted, the Bidder will execute the Proposed Contract and furnish a Public Construction Bond within twenty (20) days after receipt of Notice of Award of Contract.

To be eligible to submit a proposal, a Bidder must hold the required and/or appropriate current license, certificate, or registration (e.g. DBPR license/certificate of authorization, etc.) in good standing at the time of receipt of Bids. Per Section 489.131, Florida Statutes, Proposals submitted for the construction, improvement, remodeling, or repair of public projects must be accompanied by evidence that the Bidder holds the required and/or appropriate current certificate or registration, unless the work to be performed is exempt under Section 489.103, Florida Statutes.

The City of Tampa reserves the right to reject any or all Bids and to waive any informalities in the Bid and/or Bid Bond. Acceptance or rejection of Proposals will be made as soon as practicable after the Proposals are received, but the City reserves the right to hold Proposals for ninety (90) days from the date of Opening.

Bid Protest Procedures: Unless subsequently indicated otherwise, in a revised posting on the Department's web page for Construction Project Bidding, the City of Tampa intends to award the referenced project to the lowest bidder listed in the tabulation posted on or about the date of Bid Opening. A bidder aggrieved by this decision may file a protest not later than 4:30 P.M., five (5) business days from the first posting thereof, pursuant to City of Tampa Code Chapter 2, Article V, Division 3, Section 2-282, Procurement Protest Procedures. Protests not conforming therewith shall not be reviewed.

Pursuant to Section 2-282, City of Tampa Code, during the solicitation period, including any protest and/or appeal, NO CONTACT with City officers or employees is permitted from any bidder or proposer, other than as specifically stated in this solicitation and as follows: Director of the Contract Administration Department (CAD); Contracts Management Supervisor, Jim Greiner; City legal department.

Any Requests For Information must be submitted by email to ContractAdministration@tampagov.net

A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list." Refer to Section 287.133, Florida Statutes.

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Pursuant to Section 287.087, Florida Statutes, under certain circumstances preference may be given to businesses with a drug-free workplace program that meets the requirements of said Section.

INSTRUCTIONS TO BIDDERS

SECTION 1 - SPECIAL INSTRUCTIONS

I-1.01 GENERAL:

The proposed work is the Howard F. Curren AWTP Aquifer Recharge Wells Construction in the City of Tampa, as required for a complete project, as shown on the plans and detailed in the specifications. The work is located on land owned or controlled by the City of Tampa.

To be eligible to submit a proposal, a Bidder must hold the required and/or appropriate current license, certificate, or registration (e.g. DBPR license/certificate of authorization, etc.) in good standing at the time of receipt of Bids. Per Section 489.131, Florida Statutes, Proposals submitted for the construction, improvement, remodeling, or repair of public projects must be accompanied by evidence that the Bidder holds the required and/or appropriate current certificate or registration, unless the work to be performed is exempt under Section 489.103, Florida Statutes.

I-1.02 FORM PREPARATION AND PRESENTATION OF PROPOSALS: Replace the second sentence with the following: Submission of the entire specification book is not required.

I-1.03 ADDENDA – Section I-2.03 is replaced with the following: No interpretation of the meaning of the Plans, Specifications, or other Contract Documents will be made to any Bidder orally.

Every request for such interpretation must be in writing, addressed to the City of Tampa, Contract Administration Department, 306 E. Jackson St., 4th Floor, Tampa, Florida 33602 and then emailed to ContractAdministration@tampagov.net. To be given consideration, such request must be received at least seven (7) days prior to the date fixed for the opening of the Proposals. Any and all such interpretations and any supplemental instructions will be in the form of written addenda which, if issued, will be posted on the Department's web page. Failure of any Bidder to receive any such addenda shall not relieve said Bidder from any obligation under his Proposal as submitted. All addenda so issued shall become part of the Contract Documents.

I-1.04 INSTRUCTIONS TO BIDDERS

SECTION 2 – GENERAL INSTRUCTIONS. Section I-2.07 SIGNATURE AND QUALIFICATIONS OF BIDDERS is replaced with the following:

Proposals must be signed in ink by the Bidder with signature in full. When firm is a Bidder, the Proposal shall be signed in the name of the firm by one or more partners. When a corporation is a bidder the officer signing shall set out the corporate name in full beneath which he shall sign his name and give the title of his office.

If the bidder referred to in Section I-2.07 is a corporation, it must submit; upon request, a copy of its filed Articles of Incorporation. In addition, if the bidder was incorporated in another state, it must establish that it is authorized to do business in the State of Florida. If the bidder is using a fictitious name, it must submit upon request, proof of registration of such name with the Clerk of the Circuit Court of the County where its principal place of business is. Failure to submit what is required is grounds to reject the bid of that bidder.

SECTION 2 – GENERAL INSTRUCTIONS. Section I-2.14 NONDISCRIMINATION IN EMPLOYMENT is changed to add the following to the end of the existing text:

The following provisions are hereby incorporated into any contract executed by or on behalf of the City. Contractor shall comply with the following Statement of Assurance: During the performance of the Contract, the Contractor assures the City, that the Contractor is in compliance with Title VII of the 1964 Civil Rights Act, as amended, the Florida Civil Rights Act of 1992, and the City of Tampa Code of Ordinances, Chapter 12, in that Firm/Contractor does not on the grounds of race, color, national origin, religion, sex, sexual orientation, gender identity or expression, age, disability, familial status, or marital status, discriminate in any form or manner against said Firm's/Contractor's employees or applicants for employment. Contractor understands and agrees that the Contract is conditioned upon the veracity of this Statement of Assurance, and that violation of this condition shall be considered a material breach of the Award/Contract. Furthermore, Contractor herein assures the City that said Contractor will comply with Title VI of the Civil Rights Act of 1964 when federal grant(s) is/are involved. This

Statement of Assurance shall be interpreted to include Vietnam-Era Veterans and Disabled Veterans within its protective range of applicability. Firm/Contractor further acknowledges and agrees to provide the City with all information and documentation that may be requested by the City from time to time regarding the solicitation, selection, treatment and payment of subcontractors, suppliers and vendors in connection with this Award/Contract. Firm/Contractor further acknowledges that it must comply with City of Tampa Code of Ordinances, Chapter 26.5.

I-1.05 TIME FOR COMPLETION:

The work shall be arranged to be completed in accordance with a progress schedule approved by the Construction Engineer.

The time for completion of this project, referred in Article 4.01 of the Agreement, shall be 300 consecutive calendar days for Phase I and 1,065 consecutive calendar days for Phase II for a total of 1,365 consecutive calendar days. Phase II work will not begin until the City has provided authorization to proceed with Phase II. This authorization will be provided within 2 weeks after the completion of Phase I work and the completion of the injection testing for recharge well (RW-1). Time for completion shall include time for mobilization, submittal and approval of shop drawings, and all other pre-construction activities. The period for performance shall start from the date indicated in the Notice To Proceed.

The construction schedule may be adjusted from time to time in order to accommodate major event activities.

I-1.06 LIQUIDATED DAMAGES:

The amount of liquidated damages, referred to in Article 4.06 of the Agreement, for completion of this project shall be \$500 per calendar day for each phase.

I-1.07 BASIS OF AWARD OF CONTRACT:

The basis of award referred to in Item I-2.11 of Instructions to Bidders shall be the greatest amount of work, which can be accomplished within the funds available as budgeted. The award may be made on the basis of the total bid, base bid, alternates(s) if any, unit bids if any, or any combination thereof deemed to be in the best interest of the City.

Unless all bids are rejected, the award will be made within 90 days after opening proposals.

The City may, at its option, award to more than one bidder.

I-1.08 GROUND BREAKING CEREMONY:

Arrangement may be made by the City in coordination with the Contractor, for construction to commence with a Ground Breaking Ceremony. Details will be discussed at the pre-construction conference.

I-1.09 INSURANCE:

The insurance required for this project shall be as indicated on the attached and incorporated Special Instructions pages beginning with page INS-1 entitled CITY OF TAMPA INSURANCE REQUIREMENTS, which among other things requires the Contractor to provide a Certificate of Insurance to the City prior to commencing work. The City may from time to time use a third-party vendor to manage its insurance certificates and related documentation which vendor may periodically initiate contact, requests for information, etc. on the City's behalf.

I-1.10 TESTING:

The Contractor shall perform all Quality Control (QC) testing to meet the FDOT requirements in the Florida Department of Transportation, JULY 2022 Standard Specifications for Road and Bridge Construction.

I-1.11 EQUAL BUSINESS OPPORTUNITY PROGRAM (EBO) REQUIREMENTS / PROJECT
SUBCONTRACTING GOAL(S):

BIDDERS MUST Refer to attached form DMI-90 for Subcontracting Goals and Instructions.

I-1.12 BID SECURITY:

Surety companies shall have a rating of not less than B+ Class VI as evaluated in the most recently circulated Best KeyRating Guide Property/Casualty.

I-1.13 PUBLIC CONSTRUCTION BOND:

The Bidder who is awarded the Contract will be required to furnish a Public Construction Bond upon the form provided herein, equal to 100 percent of the Contract price, such Bond to be issued and

executed by (a) surety company(ies) acceptable to the City and licensed to underwrite contracts in the State of Florida. After execution of the Agreement and before commencing work, the Contractor must provide the City a certified copy of the officially recorded Bond.

I-1.14 AGREEMENT

SECTION 2 – POWERS OF THE CITY’S REPRESENTATIVES - Add the following:

Article 2.05 CITY’S TERMINATION FOR CONVENIENCE:

The City may, at any time, terminate the Contract in whole or in part for the City’s convenience and without cause. Termination by the City under this Article shall be by a notice of termination delivered to the Contractor, specify the extent of termination and the effective date.

Upon receipt of a notice of termination, the Contractor shall immediately, in accordance with instructions from the City, proceed with performance of the following duties regardless of delay in determining or adjusting amounts due under this Paragraph:

- (a) cease operations as specified in the notice;
- (b) place no further orders and enter into no further subcontracts for materials, labor, services or facilities except as necessary to complete continued portions of the Contract;
- (c) terminate all subcontracts and orders to the extent they relate to the Work terminated;
- (d) proceed to complete the performance of Work not terminated; and
- (e) take actions that may be necessary, or that the City may direct, for the protection and preservation of the terminated Work.

The amount to be paid to the Contractor by the City because of the termination shall consist of:

- (a) for costs related to work performed on the terminated portion of the Work prior to the effective date including termination costs relative to subcontracts that are properly chargeable to the terminated portion of the Work;

- (b) the reasonable costs of settlement of the Work terminated, including accounting, legal, clerical and other expenses reasonable necessary for the preparation of termination settlement proposals and supporting data; additional costs of termination and settlement of subcontracts excluding amounts of such settlements; and storage, transportation, and other costs incurred which are reasonably necessary for the preservation, protection or disposition of the terminated Work; and
- (c) a fair and reasonable profit on the completed Work unless the Contractor would have sustained a loss on the entire Contract had it been completed.

Allowance shall be made for payments previously made to the Contractor for the terminated portion of the Work, and claims which the City has against the Contractor under the Contract, and for the value of materials supplies, equipment or other items that are part of the costs of the Work to be disposed of by the Contractor.

SECTION 4 – TIME PROVISIONS, Article 4.07

Replace the second paragraph with the following: “However, if such inspection reveals items of work still to be performed the Contractor shall provide for approval by the Engineer an estimate of the cost of each item and promptly perform them and then request a reinspection to be made within ten (10) days after receipt of such request. If, upon any reinspection, the Engineer determines that the work is complete, the date of final completion shall be deemed to be the last day of such reinspection.”

SECTION 5 – SUBCONTRACTS AND ASSIGNMENTS, Article 5.01, Change “...twenty-five (25) percent...” to “...fifty-one (51) percent...”.

SECTION 8 – CONTRACTOR'S EMPLOYEES, Article 8.03, Replace with the following new article:

ARTICLE 8.03 EMPLOYMENT OPPORTUNITIES

The Contractor shall, in the performance of the work required to be done under this Contract, employ all workers without discrimination and must not maintain, provide or permit facilities that are segregated.

SECTION 10 – PAYMENTS, Article 10.05:

Change “...fair value of the work done, and may apply for...” to “...fair value of the work done, and shall apply for...” Note: Retainage as referenced in Article 10.05 is limited to a maximum of five percent (5%). Payment Applications must be submitted through the city’s construction software, Trimble Unity Construct. Additional information is available at <https://www.tampa.gov/contract-administration/trimbleconstruct> .

SECTION 11 – MISCELLANEOUS PROVISIONS, Article 11.02:

Delete the 2nd Sentence in its entirety and replace it with the following new 2nd Sentence:

Without limiting application of Article 11.07, below, whenever the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the Contractor shall indemnify, defend, and hold harmless the City Indemnified Parties (as defined below) from any and all Claims (as defined below) for infringement by reason of the use of any such patented design, device, tool, material, equipment, or process, to be performed under the Contract and damages which may be incurred by reason of such infringement at any time during the prosecution or after completion of the work.

SECTION 11 – MISCELLANEOUS PROVISIONS, Article 11.03: Delete Article 11.03 in its entirety and replace with the following new article: ARTICLE 11.03 INTENTIONALLY OMITTED.

SECTION 11 – MISCELLANEOUS PROVISIONS: Delete Article 11.07 in its entirety and replace with the following new article:

ARTICLE 11.07 INDEMNIFICATION PROVISIONS

Whenever there appears in this Agreement, or in the other Contract Documents made a part hereof, an indemnification provision within the purview of Chapter 725.06, Laws of Florida, the monetary limitation on the extent of the indemnification under each such provision shall be One Million Dollars or a sum equal to the total Contract price, whichever shall be the greater.

Contractor releases and agrees to defend, indemnify and hold harmless the City, its officers, elected and appointed officials, employees, and/or agents (collectively, "City Indemnified Parties") from and against any and all losses, liabilities, damages, penalties, settlements, judgments, charges, or costs (including without limitation attorneys' fees, professional fees, or other expenses) of every kind and character arising out of any and all claims, liens, is entitled to indemnification hereunder. This obligation shall in no way be limited in any nature whatsoever by any limitation on the amount or type of Contractor's insurance coverage.

The parties agree that to the extent the written terms of this indemnification are deemed by a court of competent jurisdiction to be in conflict with any provisions of Florida law, in particular Sections 725.06 and 725.08, Florida Statutes, the written terms of this indemnification shall be deemed by any court of competent jurisdiction to be modified in such a manner as to be in fully and complete compliance with all such laws and to contain such limiting conditions or limitations of liability, or to not contain any unenforceable or prohibited term or terms, such that this indemnification shall be enforceable in accordance with and to the maximum extent permitted by Florida law.

The obligation of Contractor under this Article is absolute and unconditional; it is not conditioned in any way on any attempt by a City Indemnified Party to collect from an insurer any amount under a liability insurance policy, and is not subject to any set-off, defense, deduction, or counterclaim that the Contractor might have against the City Indemnified Party. The duty to defend hereunder is independent and separate from the duty to indemnify, and the duty to defend exists regardless of any ultimate liability of Contractor, the City, and any City Indemnified Party. The duty to defend arises immediately upon presentation of a Claim by any party and written notice of such Claim being provided to Contractor. Contractor's defense and indemnity obligations hereunder will survive the expiration or earlier termination of this Contract.

Contractor agrees and recognizes that the City Indemnified Parties shall not be held liable or responsible for any Claims which may result from any actions or omissions of Contractor in which the City Indemnified Parties participated either through providing data or advice and/or review or concurrence of Contractor's actions. In reviewing, approving or rejecting any

submissions by Contractor or other acts of Contractor, the City in no way assumes or shares any responsibility or liability of Contractor or any tier of subcontractor/subconsultant/supplier, under this Contract.

In the event the law is construed to require a specific consideration for such indemnification, the parties agree that the sum of Ten Dollars and 00/100 (\$10.00), receipt of which is hereby acknowledged, is the specific consideration for such indemnification and the providing of such indemnification is deemed to be part of the specifications with respect to the services provided by Contractor.

SECTION 11 – MISCELLANEOUS PROVISIONS, Article 11.12 add the following new language after existing text:

The City of Tampa is a public agency subject to Chapter 119, Florida Statutes. In accordance with Florida Statutes, 119.0701, Contractor agrees to comply with Florida's Public Records Law, including the following:

1. Contractor shall keep and maintain public records required by the City to perform the services under this Agreement;
2. Upon request by the City, provide the City with copies of the requested records, having redacted records in total on in part that are exempt from disclosure by law or allow the records to be inspected or copied within a reasonable time (with provision of a copy of such records to the City) on the same terms and conditions that the City would provide the records and at a cost that does not exceed that provided in Chapter 119, Florida Statutes, or as otherwise provided by law;
3. Ensure that records, in part or in total, that are exempt or that are confidential and exempt from disclosure requirements are not disclosed except as authorized by law for the duration of the Agreement term and following completion (or earlier termination) of the Agreement if Contractor does not transfer the records to the City;

4. Upon completion (or earlier termination) of the Agreement, Contractor shall within 30 days after such event either transfer to the City, at no cost, all public records in possession of the Contractor or keep and maintain the public records in compliance with Chapter 119, Florida Statutes. If Contractor transfers all public records to the City upon completion (or earlier termination) of the Agreement, Contractor shall destroy any duplicate records that are exempt or confidential and exempt from public records disclosure requirements. If Contractor keeps and maintains public records upon completion (or earlier termination) of the Agreement, Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City in a format that is compatible with the information technology systems of the agency.

The failure of Contractor to comply with Chapter 119, Florida Statutes, and/or the provisions set forth in this Article shall be grounds for immediate unilateral termination of the Agreement by the City; the City shall also have the option to withhold compensation due Contractor until records are received as provided herein.

IF CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT 813-274-8598, JIM.GREINER@TAMPAGOV.NET, AND CONTRACT ADMINISTRATION DEPARTMENT, TAMPA MUNICIPAL OFFICE BUILDING, 4TH FLOOR, 306 E. JACKSON ST. TAMPA, FLORIDA 33602.

I-1.15 Contractors must utilize the U.S. Department of Homeland Security's E-Verify Systems to verify the employment eligibility of all persons employed during the term of the Contract to perform employment duties within the State of Florida and all persons, including subcontractors, assigned by Contractor to perform work pursuant to the contract.

I-1.16 GENERAL PROVISIONS; G-2.02 Copies Furnished to Contractor: Replace the first paragraph with the following:

The Contractor shall acquire for its use copies of the plans and specifications as needed, which may be downloaded from the City's web site, at <http://www.tampagov.net/contract-administration/programs/construction-project-bidding>.

Bidder as part of the solicitation process (and as Contractor if Bidder is successful) may hold, come into possession of, and/or generate certain building plans, blueprints, schematic drawings, including draft, preliminary, and final formats, which depict the internal layout and structural elements of a building, facility, or other structure owned or operated by the City or an agency (singularly or collectively "Exempt Plans"), which pursuant to Section 119.071(3), Florida Statutes, are exempt from Section 119.07(1), Florida Statutes and Section 24(a), Art. I of the Florida State Constitution.

Contractor certifies it has read and is familiar the exemptions and obligations of Section 119.071(3), Florida Statutes; further that Contractor is and shall remain in compliance with same, including without limitation maintaining the exempt status of such Exempt Plans, for so long as any Exempt Plans are held by or otherwise in its possession.

I-1.17 PAYMENT DISPUTE RESOLUTION

Any dispute pertaining to pay requests must be presented to the City pursuant to Executive Order 2003-1.

I-1.18 SCRUTINIZED COMPANIES CERTIFICATION

Section 287.135, Florida Statutes, prohibits agencies or local governmental entities from contracting for goods or services of any amount with companies that are on the Scrutinized Companies that Boycott Israel List or are engaged in a boycott of Israel, and of \$1 million or more with companies that are on either the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or are engaged in business operations in Cuba or Syria. Specifically, Section 287.135(2), Florida Statutes, states: "A company is ineligible to, and may not, bid on, submit a proposal for, or enter into or renew a contract with an agency or local governmental entity for goods or services of: (a) Any amount if, at the time of bidding on, submitting a proposal for, or entering into or renewing such contract, the company is on the Scrutinized Companies that Boycott Israel List, created pursuant to s. 215.4725, or is engaged in a boycott of Israel; or (b) One million dollars or more if, at the time of bidding on, submitting a proposal for, or entering into or renewing such contract, the company: 1. Is on the Scrutinized Companies with Activities in

Sudan List or the Scrutinized Companies with Activities in the Iran Terrorism Sectors List, created pursuant to s. 215.473; or 2. Is engaged in business operations in Cuba or Syria.”

Upon submitting its bid or proposal, a bidder/proposer: (i) certifies the company is not in violation of Section 287.135, Florida Statutes, and shall not be in violation at the time the company enters into or renews any resulting contract; and (ii) agrees any such resulting contract shall be deemed to contain a provision that allows the City, at

its option, to terminate such contract for cause if the company is found to have submitted a false certification, been placed on one or any of the foregoing Lists, been engaged in a boycott of Israel, or been engaged in business operations in Cuba or Syria.

I-1.19 FLORIDA’S PUBLIC RECORDS LAW; DATA COLLECTION

Pursuant to Section 119.071(5)(a)2a, Florida Statutes, social security numbers shall only be collected from Bidders and/or Contractor by the City should such number be needed for identification, verification, and/or tax reporting purposes. To the extent Bidder and/or Contractor collects an individual’s social security number in the course of acting on behalf of the City pursuant to the terms and conditions of its Proposal or, if awarded, the Agreement, Bidder and/or Contractor shall follow the requirements of Florida’s Public Records Law.

I-1.20 BIDDER’S CRIMINAL HISTORY SCREENING PRACTICES

Per City of Tampa Code of Ordinances, Section 2-284, Bidder is requested to provide information as to whether Bidder has criminal history screenings similar in nature to the practices contained in Chapter 12, Article VI, City of Tampa Code of Ordinances. If the Bidder voluntarily agrees to comply with the City’s criminal screening practices as provided in Chapter 12, Article IV of the City Code, the Bidder will receive a two percent (2%) discount for evaluation purposes only if Bidder submits notarized documentation with its bid, and an assurance of compliance with Section 2-284 if awarded the contract (“Ban the Box Requirements”). The City of Tampa’s municipal codes are published online by the Municipal Code Corporation at the website link below.

[City of Tampa Municipal Code](#)

Tampa Construction Specifications
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Bidders must complete Form BTB-1 and include with its bid.

I-1.21 FLORIDA STATUTES 287.05701

The City of Tampa will not request documentation of or consider a bidder's (proposer's) social, political, or ideological interests when determining if the bidder (proposer) is a responsible vendor and will not give preference to a bidder (proposer) based on the bidder's (proposer's) social, political, or ideological interests.

INSTRUCTIONS TO BIDDERS

SECTION 2

GENERAL INSTRUCTIONS

I-2.01 BIDDER'S RESPONSIBILITY

Before submitting Proposals, Bidders shall carefully examine the entire site of the proposed work and adjacent premises and the various means of approach and access to the site, and make all necessary investigations to inform themselves thoroughly as to the facilities necessary for delivering, placing and operating the necessary construction equipment, and for delivering and handling materials at the site, and inform themselves thoroughly as to all difficulties involved in the completion of all the work in accordance with the Contract Documents.

Bidders must examine the Plans, Specifications, and other Contract Documents and shall exercise their own judgment as to the nature and amount of the whole of the work to be done, and for the bid prices must assume all risk of variance, by whomsoever made, in any computation or statement of amounts or quantities necessary to complete the work in strict compliance with the Contract Documents.

Elevations of the ground are shown on the Plans and are believed to be reasonably correct, but are not guaranteed to be absolutely so and are presented only as an approximation. Bidders shall satisfy themselves as to the correctness of all elevations.

The City may have acquired, for its own use, certain information relating to the character of materials, earth formations, probable profiles of the ground, conditions below ground, and water surfaces to be encountered at the site of the proposed work. This information, if it exists, is on file at the offices of the Department of Public Works and Bidders will be permitted to see and examine this information for whatever value they consider it worth. However, this information is not guaranteed, and Bidders should satisfy themselves by making borings or test pits, or by such other methods as they may prefer, as to the character, location, and amounts of water, peat, clay, sand, quicksand, gravel, boulders, conglomerate, rock, gas or other material to be encountered or work to be performed.

Various underground and overhead structures and utilities are shown on the plans. The location and dimensions of such structures and utilities, where given, are believed to be reasonably correct, but do not purport to be absolutely so. These structures and utilities are plotted on the Plans for the information of the Bidders, but information so given is not to be construed as a representation or assurance that such structures will be found or encountered as plotted, or that such information is complete or accurate.

I-2.02 FORM, PREPARATION AND PRESENTATION OF PROPOSALS

Each Proposal shall be submitted upon the Proposal Form and in accordance with the instructions included herein. The Proposal Form must not be detached herefrom. All blank spaces for bid prices must be filled in, in both words and figures, with the unit or lump sum prices, or both, for which the Proposal is made. The computed total price for each unit price Contract Item shall be determined by multiplying the estimated quantity of the item, as set forth in the Proposal Form, by the corresponding unit price bid for such item. The resulting product shall be entered in the appropriate blank space under the column headed "Computed Total Price for Item". The lump sum price bid for each lump sum price bid for each lump sum price Contract Item shall also be entered in the column headed "Computed Total Price for Item". If a Proposal contains any omissions, erasures, alterations, additions, or items not called for in the itemized Proposal, or contains irregularities of any kind, such may constitute sufficient cause for rejection of the Proposal. In case of any discrepancy in the unit price or amount bid for any item in the Proposal, the price is expressed in written words will govern. In no case is the Agreement Form to be filled out or signed by the Bidder.

In the case of certain jobs bid Lump Sum a "Schedule of Unit Prices" must be filled out as an attachment to the Lump Sum proposal. These prices may be used as a guide for the negotiation of change orders, at the City's option.

The proposal must be signed and certified and be presented on the prescribed form in a sealed envelope on/or before the time and at the place stated in the Notice of Bidders, endorsed with the name of the person, firm or corporation presenting it, the date of presentation, and the title of the work for which the Proposal is made.

Unless the apparent low bidder is now engaged in or has recently completed contract work for the City of Tampa, he, if requested, shall furnish to the City, after the opening of bids and prior to award, a summary statement of record of construction experience over the past three (3) years with proper supporting evidence, and, if required by the City, shall also furnish a list of equipment and other facilities pertinent to and available for the proper execution of the proposed work, and a statement of financial resources to the extent necessary to establish ability to carry on the proposed work. The City may make further investigations as considered necessary with respect to responsibility of the Bidder to whom it appears may be awarded the Contract.

If forwarded by mail, the sealed envelope containing the Proposal, endorsed as directed above, must be enclosed in another envelope addressed as specified in the Notice to Bidders and sent by registered mail.

I-2.03 ADDENDA AND INTERPRETATIONS

No interpretation of the meaning of the Plans, Specifications, or other Contract Documents will be made to any Bidder orally.

Every request for such interpretation must be in writing, addressed to the Department of Public Works, Tampa Municipal Office Building, 4th Floor North, City Hall Plaza, Tampa, Florida 33602. To be given consideration, such request must be received at least seven (7) days prior to the date fixed for the opening of the Proposals. Any and all such interpretations and any supplemental instructions will be in the form of written addenda which, if issued, will be sent by certified mail, with return receipt requested, to all prospective bidders at the respective addresses furnished, for such purposes, not later than three (3) working days prior to the date fixed for the opening of the Proposals, and if requested, a copy will be delivered to the prospective bidder's representative. Failure of any Bidder to receive any such addenda shall not relieve said Bidder from any obligation under his Proposal as submitted. All addenda so issued shall become part of the Contract Documents.

I-2.04 BID SECURITY

Each Proposal must be accompanied by a certified or cashier's check issued by a solvent bank or trust company and payable at sight to the City of Tampa, in compliance with Section 255.051 Florida Statutes, or a Bid Bond upon the form provided herein, in an amount of not less than five percent of the sum of the computed total amount of the Bidder's Proposal as a guarantee that if the Proposal is accepted, the Bidder will execute and fill in the proposed Contract and Performance Bond within ten (10) days after notice of award of the Contract. Certified checks shall have all necessary documentary revenue stamps attached if required by law. Surety on Bid Bonds shall be a duly authorized surety company authorized to do business in the State of Florida, and all such Bonds shall be issued or countersigned by a local resident producing agent, and satisfactory evidence of the authority of the person or persons executing such Bond to Execute the same shall be submitted with the Bond. Bid Bonds shall be issued by a surety company acceptable to the City.

Within ten (10) days after the opening of Proposals, the bid security of all but the three lowest Bidders will be returned. The bid security of the remaining two Bidders whose Proposals are not accepted will be returned within ten (10) days after the execution of the Contract, or, if no such Contract has been executed, within sixty (60) days after the date of opening Proposals. The bid security of the Bidder whose Proposal is accepted will be returned only after he has duly executed the Contract and furnished the required Performance Bond and insurance.

Should it be necessary for the City to retain the bid security of the three low Bidders for a period

Tampa Construction Contract Boilerplate

beyond twenty (20) days after the Proposals are received, and said bid security is in the form of checks, the checks of these Bidders will be returned if replaced by Bid Bonds in an amount equal to the amount of the checks of such Bidders in such form and issued by a surety company acceptable to the City.

A Bidder may withdraw his Proposal before the time fixed for the opening of Proposals, without prejudice to himself, by communicating his purpose, in writing, to the Mayor and City Council, and when his communication is received, the Proposal will be handed to him or his authorized agent unopened. No Bidder may withdraw his Proposal within sixty (60) days after the day of opening Proposals.

The Bidder whose Proposal is accepted shall enter into a written contract, upon the Agreement form included herein, for the performance of the work and furnish the required Performance and Payment Bond within ten days after written notice of the City of Award of Contract has been served on such Bidder personally or after receipt of the written notice by registered mail to such Bidder at the address given in his Proposal.

If the Bidder to whom a Contract is awarded refuses or neglects to execute it or fails to furnish the required Performance and Payment Bond within ten (10) days after receipt by him of the Notice of Award of Contract, the amount of his bid security shall be forfeited and shall be retained by the City as liquidated damages, and not as a penalty, it being now agreed that said sum is a fair estimate of the amount of damages that the City will sustain in case said Bidder fails to enter into a Contract and furnish the required Performance Bond. If a Bid Bond was furnished, the full amount of the Bond shall become due and payable as liquidated damages caused by such failure. The full amount of the bid security shall be forfeited as liquidated damages without consideration of the fact that an award may be less than the full amount of the Bidder's Proposal, excepting that the award shall be within the conditions of said Proposal relating to the basis of consideration for an award. No plea of mistake in the bid or mis-understanding of the conditions of forfeiture shall be available to the Bidder for the recovery of his deposit or as a defense to any action based upon the neglect or refusal to execute a contract.

I-2.05 LAWS AND REGULATIONS

The Bidder who is awarded the Contract must comply with all laws of the State of Florida, and all applicable Ordinances of the City of Tampa respecting labor and compensation and with all other statutes, ordinances, rules and regulations applicable and having the force of law.

I-2.06 PERFORMANCE AND PAYMENT BOND

The Bidder who is awarded the Contract will be required to furnish Performance and Payment Bond upon the form provided herein, equal to 100 percent of the Contract price, such Bond to be executed

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by a surety company acceptable to the City of Tampa and licensed to underwrite contracts in the State of Florida. Surety companies shall have a rating of not less than: Class X as evaluated in the most recently circulated BEST'S KEY RATING GUIDE PROPERTY- LIABILITY.

I-2.07 SIGNATURE AND QUALIFICATIONS OF BIDDERS

Proposals must be signed in ink by the Bidder with signature in full. When a firm is a Bidder, the Proposal shall be signed in the name of the firm by one or more of the partners. When a corporation is a Bidder the officer signing shall set out the corporate name in full beneath which he shall sign his name and vie the title of his office. The Proposal shall also bear the seal of the corporation attested by its secretary. Anyone signing the Proposal as agent must file with it legal evidence of his authority to do so.

Bidders who are nonresident corporations shall furnish to the City a duly certified copy of their permit to transact business in the State of Florida, signed by the Secretary of State, within ten days of the notice to do so. Such notice will be given to Bidders who are nonresident corporations, to whom it appears an award will be made, and the copy of the permit must be filed with the City before the award will be made. Failure to promptly submit this evidence of qualification to do business in the State of Florida may be basis for rejection of the Proposal.

I-2.08 REJECTION OF PROPOSALS

The City reserves the right to reject any Proposal if investigation of the Bidder fails to satisfy the City that such Bidder is properly qualified to carry out the obligations and to complete the work contemplated therein. Any or all Proposals will be rejected if there is reason to believe that collusion exists among Bidders. Proposals will be considered irregular and may be rejected if they show serious omissions, alterations in form, additions not called for, conditions or unauthorized alternates, or irregularities of any kind. The City reserves the right to reject any or all Proposals and to waive such technical errors as may be deemed best for the interests of the City.

I-2.09 QUANTITIES ESTIMATED ONLY

The estimate of quantities of the various items of work and materials, if set forth in the Proposal Form, is approximate only and is given solely to be used as a uniform basis for the comparison of Proposals. The quantities actually required to complete the Contract work may be less or more than so estimated, and if awarded a Contract for the work specified, the Contractor agrees that he will not make any claim for damages or for loss of profits because of a difference between the quantities of the various classes of work assumed for comparison of Proposals and quantities of work actually performed. The City further reserves the right to vary the quantities in any amount.

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I-2.10 COMPARISON OF PROPOSALS

Except jobs bid on a "One Lump Sum" basis, proposals will be compared on the basis of a total computed price arrived at by taking the sum of the estimated quantity of each item and the corresponding unit price of each item, and including any lump sum prices on individual items.

The computed total prices for individual Contract Items and the total computed price for the entire Contract, as entered by the Bidder in the Proposal Form, are for convenience only and are subject to correction in the tabulation and computation of the Proposals.

I-2.11 BASIS OF AWARD

The Contract will be awarded, if at all, to the lowest responsible Bidder or Bidders, as determined by the City and by the terms and conditions of the Contract Documents. Unless all bids are rejected, the award will be made within sixty (60) days after the opening of Proposals.

The successful Bidder will be required to possess, or obtain, a valid City Occupational License.

I-2.12 INSURANCE REQUIRED

The successful Bidder and his subcontractors will be required to procure and pay for insurance covering the work in accordance with the provisions of Article 6.02 of the Agreement as indicated on special instructions pages beginning with INS-1.

I-2.13 NO ASSIGNMENT OF BID

No Bidder shall assign his bid or any rights thereunder.

I-2.14 NONDISCRIMINATION IN EMPLOYMENT

Contracts for work under this Proposal will obligate the contractors and subcontractors not to discriminate in employment practices.

I-2.15 LABOR STANDARDS

The Bidder's attention is directed to applicable Contract Provisions of the Labor Standards for federally assisted projects which may be attached to and made a part of the Agreement.

I-2.16 NOTICE TO LABOR UNIONS

If applicable, the successful Bidder will be required to provide Labor Unions and other organizations of workers a completed copy of the form entitled "Notice to Labor Unions or Other Organizations of Workers", and such form may be made a part of the Agreement.

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I-2.17 Not Applicable

I-2.18 Not Applicable

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CITY OF TAMPA INSURANCE REQUIREMENTS

Prior to commencing any work or services or taking occupancy under that certain written agreement or award (for purposes of this document, Agreement) between the City of Tampa, Florida (City) and Firm/Awardee/Successful Proposer/Contractor/Consultant/Lessee/non-City party, etc. (for purposes of this document, Firm) to which this document is attached and incorporated as an Exhibit or otherwise, and continuing during the term of said Agreement (or longer if the Agreement and/or this document so requires), Firm shall provide, pay for, and maintain insurance against claims which may arise from or in connection with the performance of the Agreement (including without limitation occupancy and/or use of certain property/premises) by Firm, its agents, representatives, employees, suppliers, subtenants, or subcontractors (which term includes sub-consultants, as applicable) of any tier subject to the terms and conditions of this document. Should at any time Firm not maintain the insurance coverages required, City at its sole option (but without any obligation or waiver of its rights) may terminate the Agreement. All provisions intended to survive or to be performed subsequent to the expiration or termination of the Agreement shall survive, including without limitation Firm's obligation to maintain or renew coverage, provide evidence of coverage and certified copies of policies, etc. upon City's request and/or in response to a potential claim, litigation, etc.

The following coverages are required: ("M" indicates million(s), for example \$1M is \$1,000,000)

A. Commercial General Liability (CGL) Insurance on the most current Insurance Services Office (ISO) Form CG 00 01 or its equivalent on an "occurrence" basis (Modified Occurrence or Claims Made forms are not acceptable without prior written consent of the City). Coverage must be provided to cover liability contemplated by the Agreement including without limitation premises and operations, independent contractors, contractual liability, products and completed operations, property damage, bodily, personal and advertising injury, contractual liability, explosion, collapse, underground coverages, personal injury liability, death, employees-as-insureds. Products and completed operations liability coverage maintained for at least 3 years after completion of work. **Limits shall not be less than \$1M per occurrence and \$2M general aggregate for Agreements valued at \$2M or less; if valued over \$2M, a general aggregate limit that equals or exceeds the Agreement's value.** If a general aggregate limit applies, it shall apply separately to the project/location (ISO CG 25 03 or 25 04 or equivalent).

B. Automobile Liability (AL) Insurance in accordance with Florida law, as to the ownership, maintenance, and use of all owned, non-owned, leased, or hired vehicles. **AL insurance shall not be less than: (a) \$500,000 combined single limit each occurrence bodily injury and property damage for Agreements valued at \$100,000 or less or (b) \$1M combined single limit each occurrence bodily injury and property damage for Agreements valued over \$100,000.** If transportation of hazardous material involved, the MCS-90 endorsement (or equivalent).

C. **Worker's Compensation (WC) & Employer's Liability Insurance** for all employees engaged under the Agreement, Worker's Compensation as required by Florida law. **Employer's Liability with minimum limits of (a) \$500,000 bodily injury by accident and each accident, bodily injury by disease policy limit, and bodily injury by disease each employee for Agreements valued at \$100,000 and under or (b) \$1M bodily injury by accident and each accident, bodily injury by disease policy limit, and bodily injury by disease each for all other Agreements.**

D. **Excess (Umbrella) Liability Insurance** for Agreements valued at \$2M or more, at least \$4M per occurrence in excess of underlying limits and no more restrictive than underlying coverage for all work performed by Firm. May also compensate for a deficiency in CGL, AL, or WC.

Firm affirmatively states that the insurance requirements as set forth above are of adequate types and amounts of insurance coverage for any type of claim/loss for the proposed work or services.

ACCEPTABILITY OF INSURERS - Insurance is to be placed with insurers admitted in the State of Florida and who have a current A.M. Best rating of no less than **A-:VII** or, if not rated by A.M. Best, as otherwise approved by the City in advance and in writing.

ADDITIONAL INSURED - City, its elected officials, departments, officers, officials, and employees shall be covered as additional insureds on all liability coverage (e.g. CGL, AL, and Excess (Umbrella) Liability) as to liability arising out of work or operations performed by or on behalf of Firm including materials, parts, or equipment furnished in connection with such work or operations and automobiles owned, leased, hired, or borrowed by or on behalf of Firm. Coverage can be provided in the form of an endorsement to Firm's insurance (at least as broad as ISO Form CG 20 10 11 85 or **both** CG 10 20, CG 20 26, CG 20 33, or CG 20 38 **and** CG 20 37 if later revisions used).

CANCELLATION/NON-RENEWAL – Each insurance policy shall provide that at least 30 days written notice must be given to City of any cancellation, intent to non-renew, or material reduction in coverage (except aggregate liability limits) and at least 10 days' notice for non-payment of premium. Firm shall also have an independent duty to notify City in like manner, within 5 business days of Firm's receipt from its insurer of any notices of same. If any policy's aggregate limit is reduced, Firm shall directly take steps to have it reinstated. Notice and proof of renewal/continued coverage/certifications, etc. shall be sent to the City's notice (or Award contact) address as stated in the Agreement with a copy to the following: ☐ Purchasing Department, 306 E Jackson Street, Tampa, FL 33602

☒ Other: City of Tampa Insurance Compliance c/o Contract Administration Department
306 E. Jackson St. #280A4N, Tampa Florida 33602

CERTIFICATE OF INSURANCE (COI) AND ENDORSEMENTS – to be provided to City by insurance carrier prior to Firm beginning any work/services or taking occupancy and, if the insurance expires prior to completion of the work or services or Agreement term (as may be extended), a renewal COI at least 30 days before expiration to the above address(es). COIs shall specifically identify the Agreement and its subject (project, lease, etc.), shall be sufficiently comprehensive to insure City (named as additional insured) and Firm and to certify that coverage extends to subcontractors' acts or omissions, and as to permit the City to determine the required coverages are in place without the responsibility of examining individual policies. **Certificate Holder must be The City of Tampa, Florida.**

CLAIMS MADE – If any liability insurance is issued on a claims made form, Firm agrees to maintain such coverage uninterrupted for at least 3 years following completion and acceptance of the work either through purchase of an extended reporting provision or purchase of successive renewals. The Retroactive Date must be shown and be a date not later than the earlier of the Agreement date or the date performance/occupancy began thereunder.

DEDUCTIBLES/ SELF-INSURED RETENTIONS (SIR) – must be disclosed to City and, if over \$500,000, approved by the City in advance and in writing, including at City's option being guaranteed, reduced, or eliminated (additionally if a SIR provides a financial guarantee guaranteeing payment of losses and related investigations, claim administration, and defense expenses). Firm shall be fully responsible for any deductible or SIR (without limiting the foregoing a policy with a SIR shall provide or be endorsed to provide that the SIR may be satisfied by either the City or named insured). In the event of loss which would have been covered but for a deductible or SIR, City may withhold from any payment due Firm, under any agreement with the City, an amount equal to same to cover such loss should full recovery not be obtained under the policy.

PERFORMANCE – All insurance policies shall be fully performable in Hillsborough County, Florida (the County), and construed in accordance with Florida law. Further, all insurance policies must expressly state that the insurance company will accept service of process in the County and that the exclusive venue for any action concerning any matter under those policies shall be in the appropriate state court of the County.

PRIMARY POLICIES - Firm's insurance coverage shall be primary insurance coverage at least as broad as ISO CG 20 01 04 13 as to the City, its elected officials, departments, officers, and employees.. Any insurance or self-insurance maintained by the City, its elected officials, departments, officers, and employees shall be excess of the Firm's insurance and shall not contribute with it.

UNAVAILABILITY – To the fullest extent permitted by law, if Firm is out of business or otherwise unavailable at the time a claim is presented to City, Firm hereby assigns to the City all of its right, title and interest (but not any liabilities or obligations) under any applicable policies of insurance.

WAIVER OF SUBROGATION – With regard to any policy of insurance that would pay third party losses, Firm hereby grants City a waiver of any right to subrogation which any insurer of Firm may acquire against the City by virtue of the payment of any loss under such insurance. Firm agrees to obtain any endorsement that may be necessary to affect such waiver, but this provision shall apply to such policies regardless.

REVISED 7/14/2026

Instructions Regarding Use of the SLBE Availability Contact List

Bidders must solicit a subcontracting bid from ALL of the firms listed on the SLBEs list provided within the Specifications, and provide documentation of emails, faxes, phone calls, letters, or other communication with the firms as a first step in demonstrating Good-Faith Efforts to achieve the goal set for SLBE participation on this contract.

The list is formatted to facilitate e-mailing of a solicitation to the listed firms by copying and pasting the email addresses.

The SLBE participation Goal is based upon the availability of the certified firms indicated on the contact list. The Goal and Requirements of the City's Equal Business Opportunity Program are stated in the Bid/Contract Document, Specifications.

EQUAL BUSINESS OPPORTUNITY PROGRAM (EBO) REQUIREMENTS / PROJECT SUBCONTRACTING GOAL(S) – DMI 90 Form

BIDDERS MUST SUBMIT COMPLETED AND SIGNED CITY OF TAMPA FORMS DMI-10 AND DMI-20 WITH THEIR BIDS. BIDS SUBMITTED WITHOUT THESE COMPLETED FORMS (INCLUDING SIGNATURES) WILL BE DEEMED NON-RESPONSIVE. INSTRUCTIONS ON COMPLETING THE FORMS ARE INCLUDED AFTER EACH FORM IN THIS BID PACKAGE.

THE CHECKED BOX INDICATES THE SECTION THAT APPLIES TO THIS BID. – DMI 90 Form

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SUBCONTRACTING GOAL – (SLBE)

In accordance with the City of Tampa's EBO Program, Chapter 26.5, City of Tampa Code, the subcontracting goal(s) has/have been established for subcontracting SLBEs (Small Local Business Enterprises) on this project (hereinafter "Goal"). *The Goal is based, in part, upon the availability of City-certified firms to perform the anticipated scope of work (Bid is subject to the subcontracting project goal(s) section for which a corresponding numerical percent is indicated).*

Project Industry Category: Construction

Project Goal(s): _____% SLBE (Small Local Business Enterprise) (EBO Program)
only City-certified SLBEs

_____% SLBE ASPIRATIONAL (EBO Program) An all-inclusive SLBE goal; any City certified firm counts towards goal attainment.

BIDDERS MUST SOLICIT ALL COMPANIES ON THE ATTACHED AVAILABILITY CONTACT LIST at least five (5) City business days or more prior to bid opening as a first step to demonstrate Good Faith Efforts to achieve the Goal. Substantive documentation that demonstrates Good Faith Efforts to achieve the Goal must be submitted with the bid, including emails, faxes, phone calls, letters, and other communication with City-certified firms. Bidders may explore other potential opportunities for subcontracting by consulting the current directory of all certified firms posted by the City of Tampa at <https://tampa.gob2g.com/>, as the Availability Contact List may not be inclusive of all firms that could count toward Goal attainment. Making Good Faith Efforts through these and other means (not pro-forma) is the responsibility of the Bidder. See the attached Good Faith Effort Compliance Plan (GFECP) (DMI Form-50) for specific requirements.

GOOD FAITH EFFORT COMPLIANCE PLAN (GFECP) REQUIRED (DMI -50 FORM). When a Goal has been established, the Bidder must submit with its bid a Good Faith Effort Compliance Plan (GFECP) using the attached DMI Form-50 together with supporting documentation as specified therein. Submittals that do not contain the DMI-50 Form when a Goal has been established will be deemed non-responsive. Additional explanation and documentation is required whenever a City-certified subcontractor's quote is not utilized. Any additional information regarding GFECP (post-bid) shall be only upon the City's request for clarification of information submitted with bid and not to "cure" omissions or deficiencies of the bid.

NOTE. A prime bidder who is a City-certified SLBE is not exempt from the GFECP DMI-50 Form requirements.

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SUBCONTRACTING GOAL – (DBE) FDOT DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

The City of Tampa is required to use the Florida Department of Transportation (FDOT) Disadvantaged Business Enterprise (DBE) program on contracts with Federal Highway Administration (FHWA) funds. Effective October 1, 2017 through to September 30, 2020, the overall FDOT DBE aspirational goal is 10.54% and is *race neutral*, meaning that FDOT believes the aspirational DBE goal may be achieved entirely through ordinary, competitive procurement methods. Despite the absence of a contract-specific DBE goal on this project, the City encourages bidders to seek out and use DBEs and other minority, small businesses. For assistance in identifying certified DBEs, FDOT offers the use of its supportive services program accessed via FDOT's Equal Opportunity Office at <http://www.fdot.gov/equalopportunity/serviceproviders.shtm>. FDOT DBE rules and regulations apply to this solicitation, including the requirement to report bidder opportunity information in the FDOT Equal Opportunity Compliance (EOC) web-based application within three (3) business days of submission of the bid for ALL subcontractors who quoted bidder for this specific project. The five (5) char/digit LAP Agreement Contract Number for this project is G_____. The web address to the EOC system is: <https://fdotwp1.dot.state.fl.us/EqualOpportunityCompliance/Account.aspx/Login?ReturnUrl=%2fEqualOpportunityCompliance>

NOTE: Regardless of FDOT DBE program applicability, for data collection purposes bidder still must submit City Forms DMI-10 and DMI-20 completed and signed with its bid or the bid will be deemed non-responsive.

DATA MANAGEMENT INITIATIVE (DMI) REPORTING FORMS REQUIRED FOR ALL CONTRACTS

Bidder must submit, with its bid, completed and signed DMI-10 and DMI-20 Forms to be considered a responsive bid. Specifically, the 'Schedule of All Solicited Sub-(Contractors/Consultants/Suppliers) (DMI-10 Form)' listing all subcontractors (including non-certified) solicited and 'Schedule of All -To Be Utilized Sub-(Contractors/Consultants/Suppliers) (DMI-20 Form)' listing all subcontractors (including non-certified) to be utilized. Supplemental forms, such as 'DMI-40 Form Official Letter Of Intent' (LOI), can be submitted with the bid or once declared the lowest-responsive bidder. After an award, the 'DMI Sub-(Contractors/Consultants/Suppliers) Payment Form (DMI-30 Form)' is to be submitted with payment requests to report payments to subcontractors and using the online automated EBO compliance software system available at <https://tampa.gob2g.com/>.

For additional information about the SLBE programs, contact Equal Business Opportunity at 813-274-5522.

HFC AWTP Aquifer Recharge Well

FY 26 Project 26-C-00029

SLBE Availability Contact List

This Certified Contact List is the minimum contacts available and may require further searches for certified firms to meet Good Faith Efforts.										
#'s	Subtask	Business Name	Phone	Fax	Email	Address 1	City	State	Zip	Cert. Type
1	(SUE) Subsurface Utility Engineering	Advanced Engineering & Design, Inc.	727-526-9158	727-527-9683	keller@aed- fl.com	3931 68th Ave N	Pinellas Park	FL	33781	SLBE
1	(SUE) Subsurface Utility Engineering	all natural extreme team llc	813-765-2318	813-374-4317	xteam200@gm ail.com	3107 east 25th ave	Tampa	FL	33605	SLBE
1	(SUE) Subsurface Utility Engineering	Ambit Engineering, LLC	813-417-5828		frank@pyrtle.c om	16561 Delia St	Wimauma	FL	33598	SLBE
1	(SUE) Subsurface Utility Engineering	AREHNA Engineering, Inc.	813-944-3464	813-944-4959	jmcroory@areh na.com	5012 W. Lemon Street	Tampa	FL	33609	SLBE
1	(SUE) Subsurface Utility Engineering	Cannida Group LLC	727-642-3709		info@cannidag roup.com	2820 17th avenue south	St. Petersburg	FL	33712	SLBE
1	(SUE) Subsurface Utility Engineering	CB CAPITAL RESOURCES INC	305-491-2551	813-217-9370	Truconstructio ngc@gmail.co m	3707 W WALLACE AVE	TAMPA	FL	33611	SLBE
1	(SUE) Subsurface Utility Engineering	Cumbey and Fair, Inc.	727-797-8982	727-791-8752	tbourne@cum beyfair.com	2463 Enterprise Rd.	Clearwater	FL	33763	SLBE
1	(SUE) Subsurface Utility Engineering	D.C. Johnson & Associates, Inc.	352-588-2768	352-588-2713	jennifer@dcjoh nson.com	11911 S Curley St.	San Antonio	FL	33576	SLBE
1	(SUE) Subsurface Utility Engineering	D3 Contracting Services LLC	813-203-0189		d3contractings ervices@gmail. com	4522 W Village Dr	Tampa	FL	33624	SLBE
1	(SUE) Subsurface Utility Engineering	Diversified Professional Services Corp (DPS Corp)	352-212-4446	352-588-4393	dpolanis@dps- corp.com	27915 JOHNSTON ROAD	DADE CITY	FL	33523	SLBE

HFC AWTP Aquifer Recharge Well

FY 26 Project 26-C-00029

SLBE Availability Contact List

#'s	Subtask	Business Name	Phone	Fax	Email	Address 1	City	State	Zip	Cert. Type
1	(SUE) Subsurface Utility Engineering	Environmental Engineering Consultants, Inc.	813-237-3781	813-238-0036	awallace@eec- tampabay.com	5119 N Florida Ave	Tampa	FL	33603	SLBE
1	(SUE) Subsurface Utility Engineering	Ferguson Land Surveyors, PLLC	727-230-9606	727-230-9234	Ben@FLSurvey ors.com	806 Franklin Street	Clearwater	FL	33756	SLBE
1	(SUE) Subsurface Utility Engineering	irene&joe's lawn care &tree trimming	813-928-0124		rechibutler@ya hoo.com	2921 E 33rd Ave	Tampa	FL	33610	SLBE
1	(SUE) Subsurface Utility Engineering	Land Precision Corporation	727-796-2737	727-796-3326	rcorbitt@landp recision.com	2683 SUNSET POINT ROAD	CLEARWATER	FL	33759	SLBE
1	(SUE) Subsurface Utility Engineering	MOMAR-ENTERPRISE.COM	813-981-1172		Mobetterfit@ GMAIL.COM	8629 deep maple drive	Riverview	FL	33578	SLBE
1	(SUE) Subsurface Utility Engineering	Northwest Surveying Inc.	813-889-9236	813-886-3315	jsilva@nsitamp a.com	8409 SUNSTATE STREET	TAMPA	FL	33634	SLBE
1	(SUE) Subsurface Utility Engineering	Suncoast Land Surveying, Inc.	813-854-1342	813-354-3435	katie@suncoas tls.com	111 Forest Lakes Blvd. S.	Oldsmar	FL	34677	SLBE
1	(SUE) Subsurface Utility Engineering	T.C.C Enterprise Inc	813-606-9148	813-237-0396	tcc_inc@live.c om	3902 E POWHATAN AVE	TAMPA	FL	33610	SLBE
1	(SUE) Subsurface Utility Engineering	T.C.C Enterprise Inc	813-606-9148	813-237-0396	tcc_inc@live.c om	3902 E POWHATAN AVE	TAMPA	FL	33610	SLBE

HFC AWTP Aquifer Recharge Well

FY 26 Project 26-C-00029

SLBE Availability Contact List

#'s	Subtask	Business Name	Phone	Fax	Email	Address 1	City	State	Zip	Cert. Type
1	(SUE) Subsurface Utility Engineering	Trimen Precision Lawn Care, LLC	813-863-9328		account@trimenlandscape.com	450 S Taylor Rd	Seffner	FL	33584	SLBE
1	(SUE) Subsurface Utility Engineering	WC Boxes, Inc.	813-478-1102	813-864-4386	wcindustries2003@gmail.com	17620 Lake Key Drive	Odessa	FL	33556	SLBE
1	(SUE) Subsurface Utility Engineering	Williams Landscape Management Co., Inc.	813-628-8048	813-628-8041	tonywilliams@wlmslandscape.com	5710 N 50th St	Tampa	FL	33610	SLBE
2	Furnish Steel Casing	2 Meyer Corp.	813-210-4864	813-645-5634	Renatonjr@aol.com	6308 Lake Sunrise Dr.	Apollo Beach	FL	33572	SLBE
2	Furnish Steel Casing	DRD ENTERPRISES LLC	813-476-9933	866-850-1332	deenahd@yahoo.com	3433 Lithia Pinecrest Rd	Valrico	FL	33594	SLBE
2	Furnish Steel Casing	Dry 24 Water Restoration LLC	813-559-0009	813-559-0009	ccunningham@dry24restoration.com	100 S Ashley Dr Suite 600	Tampa	FL	33602	SLBE
2	Furnish Steel Casing	Fry Entertainment, Inc	813-478-0494	866-616-4204	yfry@fryedegg.com	103 S. Evers Street	Plant City	FL	33563	SLBE
2	Furnish Steel Casing	MBE Supply of Florida, Inc.	813-753-9285		mbesupplyofflorida@gmail.com	4306 W. Osborne Avenue	Tampa	FL	33613	SLBE
2	Furnish Steel Casing	Phinazee Construction & Consulting Services, Inc.	813-381-3317		pccsi@phinazeiconsulting.com	3433 Lithia Pinecrest Rd	Valrico	FL	33596	SLBE

HFC AWTP Aquifer Recharge Well

FY 26 Project 26-C-00029

SLBE Availability Contact List

#'s	Subtask	Business Name	Phone	Fax	Email	Address 1	City	State	Zip	Cert. Type
2	Furnish Steel Casing	RZ Service Group LLC	904-402-2313		support@rzservicegroup.com	5401 West Kennedy Blvd Suite 100	Tampa	FL	33609	SLBE
2	Furnish Steel Casing	SAT Industrial Supplies & Solutions LLC	352-457-1979		satindustrialsolutions@gmail.com	405 1st Avenue Southeast	Lutz	FL	33549	SLBE
2	Furnish Steel Casing	Suca Pipe Supply, Inc. One	813-249-7902		sucapipesupply@verizon.net	4910 Lowell Road	Tampa	FL	33624	SLBE
2	Furnish Steel Casing	TLD LLC	813-927-7554	813-977-5419	tld2013@verizon.net	14512 N. Nebraska Avenue	Tampa	FL	33613	SLBE
2	Furnish Steel Casing	Valve Depot Corp	786-399-4733	305-636-1897	valvedepot@amazon.com	2005 Lake Citrus Dr	Clearwater	FL	33763	SLBE
3	Hauling	ALPHA 8 ENTERPRISE INC	813-506-4582		alpha8enterprise@outlook.com	1232 Tuxford Dr	Brandon	FL	33511	SLBE
3	Hauling	Capital P Enterprises	813-361-8260	813-681-7465	capitalpent@gmail.com	3209 Pearson Rd	Valrico	FL	33596	SLBE
3	Hauling	CASA HOME PROPERTIES LLC	727-379-7532		service@brospirohauling.com	3901 55th St N	St. Petersburg	FL	33709	SLBE
3	Hauling	DAWUD TRASH REMOVAL SERVICES	813-394-3316	813-512-7619	dallen_99@hotmail.com	3006 E 38th Ave	Tampa	FL	33610	SLBE

HFC AWTP Aquifer Recharge Well

FY 26 Project 26-C-00029

SLBE Availability Contact List

#'s	Subtask	Business Name	Phone	Fax	Email	Address 1	City	State	Zip	Cert. Type
3	Hauling	E Johnson Construction and Hauling, LLC	813-417-9116		johnsonhauling78@gmail.com	3205 East 24th Ave	Tampa	FL	33605	SLBE
3	Hauling	EDKA Construcccion & Associates LLC	813-580-9967		edka2023@hotmail.com	4016 mCLANE DR	tAMPA	FL	33610	SLBE
3	Hauling	f&m soler transportation llc	813-446-2250		fmsolertransport@gmail.com	4513 w paris st	tampa	FL	33614	SLBE
3	Hauling	J & M Materials Of Riverview Inc.	813-478-2102	813-409-3880	jandmmaterials@gmail.com	6321 Muck Pond Rd	Seffner	FL	33584	SLBE
3	Hauling	J&B Construction Services USA Inc	656-252-4048		sharna@jb-construction-inc.com	13458 Graham Yarden Dr	Riverview	FL	33579	SLBE
3	Hauling	Jansay Trucking, LLC	813-300-1846	813-756-6642	jansaytrucking@gmail.com	3017 Leila Estelle Dr	Plant City	FL	33565	SLBE
3	Hauling	Karlos Lawn care & debris removal LLC	813-573-1320		Karloswilson4@gmail.com	7804 W Riverchase Dr	Tampa	FL	33637	SLBE
3	Hauling	MJM CONSTRUCTION ENTERPRISES, LLC	813-217-3223		jonesy0409@gmail.com	3801 LITHIA RIDGE BLVD	VALRICO	FL	33596	SLBE
3	Hauling	ODESSA TRUCKING INC	813-918-1715	813-920-8673	odessatrucking@msn.com	18136 GUNN HWY	ODESSA	FL	33556	SLBE
3	Hauling	Ortzak Construction Group, LLC	813-360-3774	813-961-6023	dcastro@ortzak.com	13014 N Dale Mabry Hwy	Tampa	FL	33618	SLBE
3	Hauling	Outwork Everybody Hauling & Transportation Services LLC	813-946-2970		outworkeverybody2020@gmail.com	4220 S Covina Cir	Tampa	FL	33617	SLBE

HFC AWTP Aquifer Recharge Well

FY 26 Project 26-C-00029

SLBE Availability Contact List

#'s	Subtask	Business Name	Phone	Fax	Email	Address 1	City	State	Zip	Cert. Type
3	Hauling	PAR Development Partners, Inc.	813-374-2856	866-594-2505	admin@pardevelopment.com	5406 56th Commerce Park Blvd	Tampa	FL	33610	SLBE
3	Hauling	Samaniego Trucking Inc	813-388-7774		samaniegotrucking@frostinboxx.com	4818 Alvarado Dr	Tampa	FL	33634	SLBE
3	Hauling	Sunrise Utility Construction, Inc.	813-949-3749	813-949-0408	LMNBOS@AOL.COM	920 Lake Thomas Lane	Lutz	FL	33548	SLBE
3	Hauling	T.C.C Enterprise Inc	813-606-9148	813-237-0396	tcc_inc@live.com	3902 E POWHATAN AVE	TAMPA	FL	33610	SLBE
3	Hauling	T.C.C Enterprise Inc	813-606-9148	813-237-0396	tcc_inc@live.com	3902 E POWHATAN AVE	TAMPA	FL	33610	SLBE
3	Hauling	Team Real Hauling Inc	813-417-3879		teamrealhauling@yahoo.com	5700 W Memorial Hwy	Tampa	FL	33615	SLBE
3	Hauling	Touchdown Logistics LLC	813-784-2310		touchdownlogisticsllc@gmail.com	6201 Cedar Glen Drive	Wesley Chapel	FL	33544	SLBE
3	Hauling	Two Bros Trucking	786-683-1998		twobrostrucking2022@gmail.com	1103 S 90th St	Tampa	FL	33619	SLBE
3	Hauling	Vermogen LLC	813-416-1144		Vermogenllc@gmail.com	4305 w cayuga	Tampa	FL	33614	SLBE
3	Hauling	Wiggins Hauling & Transfer Svc	813-562-3798	813-562-3798	Dooley813@aol.com	7016 Conifer Dr.	Tampa	FL	33637	SLBE

HFC AWTP Aquifer Recharge Well

FY 26 Project 26-C-00029

SLBE Availability Contact List

#'s	Subtask	Business Name	Phone	Fax	Email	Address 1	City	State	Zip	Cert. Type
4	Water Samples	AREHNA Engineering, Inc.	813-944-3464	813-944-4959	jmcroory@arehna.com	5012 W. Lemon Street	Tampa	FL	33609	SLBE
4	Water Samples	Arrowhead Technologies, LLC	813-679-0720	727-475-8217	mhall005@tampabay.rr.com	3151 San Bernadino St	Clearwater	FL	33759	SLBE
4	Water Samples	Baslee Engineering Solutions (BES), Inc	813-817-3020		dilip@besinceng.com	19111 Rosewood Creek Way	Tampa	FL	33647	SLBE
4	Water Samples	Diversified Professional Services Corp (DPS Corp)	352-212-4446	352-588-4393	dpolanis@dps-corp.com	27915 JOHNSTON ROAD	DADE CITY	FL	33523	SLBE
4	Water Samples	Kaizen Network Leaders, LLC	813-229-2879	813-229-0002	atyson@knlenvironmental.com	3202 N. Florida Ave	Tampa	FL	33603	SLBE
4	Water Samples	PACSCON GeoEnvironmental, Inc.	813-563-0440	813-563-0440	cpoole@pacson.com	4517 George Rd	Tampa	FL	33634	SLBE
5	Water Quality Analysis	Ambient Technologies, Inc	727-328-0268	727-328-2477	carlos@ambienttech.com	5709 1st Ave S	St. Petersburg	FL	33707	SLBE
5	Water Quality Analysis	Dry 24 Water Restoration LLC	813-559-0009	813-559-0009	ccunningham@dry24restoration.com	100 S Ashley Dr Suite 600	Tampa	FL	33602	SLBE
5	Water Quality Analysis	Environmental Engineering Consultants, Inc.	813-237-3781	813-238-0036	awallace@eec-tampabay.com	5119 N Florida Ave	Tampa	FL	33603	SLBE

HFC AWTP Aquifer Recharge Well

FY 26 Project 26-C-00029

SLBE Availability Contact List

#'s	Subtask	Business Name	Phone	Fax	Email	Address 1	City	State	Zip	Cert. Type
5	Water Quality Analysis	Iravani Professional Association	813-376-0974		iravanipa@gmail.com	18119 Portside Street	Tampa	FL	33647	SLBE
5	Water Quality Analysis	Kaizen Network Leaders, LLC	813-229-2879	813-229-0002	atyson@knlenvironmental.com	3202 N. Florida Ave	Tampa	FL	33603	SLBE
5	Water Quality Analysis	Lago Consulting & Services	813-774-5559	813-774-5045	maria@lago-consulting.com	4237 Henderson Boulevard	Tampa	FL	33629	SLBE
5	Water Quality Analysis	NovelEolutions, Inc.	239-220-4138	813-661-0183	liza.grudin@novelolutions.com	410 Ware Blvd	Tampa	FL	33619	SLBE
5	Water Quality Analysis	PACSCON GeoEnvironmental, Inc.	813-563-0440	813-563-0440	cpoole@pacson.com	4517 George Rd	Tampa	FL	33634	SLBE
5	Water Quality Analysis	Pale Blue Dot Consulting LLC	904-813-1298	727-258-3722	info@pbdcs.com	1630 58th Ave S	St. Petersburg	FL	33712	SLBE
5	Water Quality Analysis	SAT Industrial Supplies & Solutions LLC	352-457-1979		satindustrialsolutions@gmail.com	405 1st Avenue Southeast	Lutz	FL	33549	SLBE
5	Water Quality Analysis	WEY Engineering, PLLC	813-353-1227		mwey@weyeng.com	2002 N Lois Ave	Tampa	FL	33607	SLBE
5	Water Quality Analysis	Wiggins Hauling & Transfer Svc	813-562-3798	813-562-3798	Dooley813@aol.com	7016 Conifer Dr.	Tampa	FL	33637	SLBE

PROPOSAL

To the Mayor and City Council of the City of Tampa, Florida:

Legal Name of Bidder: _____

Bidder's Fictitious Name, *if applicable*: _____

Bidder is a/an: ☐ Individual ☐ Partnership (attach Partnership or Joint Venture Agreement).
☐ Joint Venture* ☐ LLC ☐ Corp. ☐ Other:

Bidder is organized under the laws of: ☐ State of Florida ☐ Other: _____

Bidder Mailing Address: _____

Bidder's Federal Employee Identification No. (FEI/EIN): _____

Bidder's License No.: _____ Bidder's FDOS (SUNBIZ) Doc. No.: _____

(See Ch. 489, FS; use entity's, individual's only if applicable)

Bidder Contact Name: _____ Email: _____ Phone: _____

(Someone the City may contact with questions/correspondence regarding this Solicitation)

The below named person, appearing before the undersigned authority and after being first duly sworn, for him/herself and on behalf of the entity submitting this Proposal does hereby affirm and declare as follows:

- (1) He/She is of lawful age and is authorized to act on behalf of Bidder (the individual, partnership, corporation, entity, etc. submitting this Proposal) and that all statements made in this document are true and correct to the best of my knowledge.
- (2) If Bidder is operating under a fictitious name, Bidder has currently complied with any and all laws and procedures governing the operation of businesses under fictitious names in the State of Florida
- (3) No person or entity other than Bidder has any interest in this Proposal or in the Contract proposed to be entered into.

Tampa Construction Specifications
Contract 26-C-00029; Howard F. Curren AWTP Aquifer Recharge Wells Construction

- (4) This Proposal is made without any understanding, agreement, or connection with any person or entity making Proposal for the same purposes, and is in all respects fair and without collusion or fraud.
- (5) Bidder is not in arrears to the City of Tampa, upon debt or contract, and is not a defaulter, as surety or otherwise, upon any obligation to the City of Tampa.
- (6) That no officer or employee or person whose salary is payable in whole or in part from the City Treasury is, shall be or become interested, directly or indirectly, as a contracting party, partner, stockholder, surety or otherwise, in this Proposal, or in the performance of the Contract, or in the supplies, materials, or equipment and work or labor to which it relates, or in any portion of the profits thereof.
- (7) Bidder has carefully examined and fully understands the Solicitation and has full knowledge of the scope, nature, and quality of the work to be performed; furthermore, Bidder has carefully examined the site of the work and that, from his own investigations, he has satisfied himself as to the nature and location of the work, the character, quality, and quantity of materials and the kinds and extent of equipment and other facilities needed for the performance of the work, the general and local conditions and all difficulties to be encountered, and all other items which may, in any way, affect the work or its performance.
- (8) Bidder (including its principals) ☐ has | ☐ has NOT been debarred or suspended from contracting with a public entity.
- (9) Bidder ☐ has | ☐ has NOT implemented a drug-free workplace program that meets the requirements of Section 287.087, Florida Statutes.
- (10) Bidder has carefully examined and fully understands all the component parts of the Contract Documents and agrees Bidder will execute the Contract, provide the required Public Construction Bond, and will fully perform the work in strict accordance with the terms of the Contract and Contract Documents therein referred to for the following prices, to wit:

26-C-00029 HFCWTP Recharge Well System
Unit Price Bid Proposal

PHASE I - Recharge Well RW-1

Pay Item	Description	Unit	Est. QTY	Unit Cost	Unit Cost (written)	Computed Total Price for Item
I-1.	MOBILIZATION AND DEMOBILIZATION - Mobilize and Demobilize All Equipment to Complete Drilling and Testing Activities	LS	1			
I-2.	SET PIT CASING - Set 48-inch Pit Casing	LS	1			
I-3.	DRILL PILOT HOLE - Drill Pilot Hole Using Mud Rotary or Reverse-Air Drilling Techniques to Depth of:					
	a. 200 feet (Mud Rotary)	FT	200			
	b. 450 feet (Reverse-air)	FT	250			
	c. 1,300 feet (Reverse-air)	FT	850			
I-4.	PILOT HOLE REAMING or OPEN HOLE to Depth of:					
	a. 47-inch Diameter to 200 feet (Mud Rotary)	FT	200			
	b. 41-inch Diameter to 450 feet (Reverse-air)	FT	250			
	c. 33-inch Diameter to 650 feet (Reverse-air)	FT	200			
I-5.	GEOPHYSICAL LOGGING - Conduct Geophysical Logs in Accordance with Table 1 of Section 02679					
	a. Pilot Hole to 200 feet	EA	1			
	b. Reamed Hole to 200 feet	EA	1			
	c. Pilot Hole to 450 feet	EA	1			
	d. Reamed Hole to 450 feet	EA	1			
	e. Pilot Hole to 1,300 feet	EA	1			
	f. Reamed Hole to 650 feet	EA	1			
	g. Completed Well to 1,200 feet, including MIT	EA	1			
I-6.	FURNISH AND INSTALL CASING:					
	a. 42-inch Dia. Carbon Steel	FT	200			
	b. 34-inch Dia. Carbon Steel	FT	450			
	c. 24-inch Dia. Carbon Steel	FT	650			
I-7.	GROUTING - Cement Casings from Bottom to Land Surface and Pilot Holes					
	a. Neat cement with up to 8% bentonite gel	FT3	7800			
	b. Bridge Plug	LS	1			
I-8.	GRAVEL - Furnish and Emplace Clean Gravel Used to Plug Cavities	YD3	10			
I-9.	PRESSURE TEST CASING - Final Casing Prior to Drilling Out Cement Plug	LS	1			
I-10.	CORING - Provide 10-Foot Length, 4-Inch Diameter Cores at Selected Intervals	EA	5			
I-11.	PACKER TEST SETUP - Furnish, Setup, Operate, and Remove all Equip. Necessary to Run Packer Pumping Test, Complete	EA	8			
I-12.	PACKER TESTING PUMPING TIME	HR	120			
I-13.	PUMPING TEST SETUP	LS	1			
I-14.	PUMPING TEST PUMPING TIME	HR	4			

Pay Item	Description	Unit	Est. QTY	Unit Cost	Unit Cost (written)	Computed Total Price for Item
I-15.	WELL DEVELOPMENT	HR	24			
I-16.	INJECTION TEST SETUP	LS	1			
I-17.	INJECTION TEST PUMPING TIME	HR	12			
I-18.	WELLHEAD - Complete Wellhead in accordance with the Drawings	LS	1			
I-19.	STANDBY TIME	HR	48			
I-20.	EXTRA WORK - Furnish Drilling Rig and Crew to Perform Extra Work Not Included in the Specifications When Directed by the ENGINEER	HR	20			
I-21.	WATER SAMPLING - Water Sampling in Accordance with Section 02311 for:					
	a. Exhibit 1, List A	EA	12			
	b. Exhibit 1, List B	EA	15			
	c. Exhibit 1, List C	EA	1			

TOTAL RW-1

_____ written amount

PHASE I - Monitor Well MW-1

Pay Item	Description	Unit	Est. QTY	Unit Cost	Unit Cost (written)	Computed Total Price for Item
I-22.	MOBILIZATION AND DEMOBILIZATION - Mobilize and Demobilize All Equipment to Complete Drilling and Testing Activities	LS	1			
I-23.	SET PIT CASING - Set 24-inch Pit Casing	LS	1			
I-24.	DRILL PILOT HOLE - Drill Pilot Hole Using Mud Rotary or Reverse-Air Drilling Techniques to Depth of:					
	a. 200 feet (Mud Rotary)	FT	200			
	b. 400 feet (Reverse-air, 15-inch diameter)	FT	200			
I-25.	PILOT HOLE REAMING or OPEN HOLE to Depth of:					
	a. 23-inch Diameter to 200 feet (Mud Rotary)	FT	150			
I-26.	GEOPHYSICAL LOGGING - Conduct Geophysical Logs in Accordance with Table 1 of Section 02679					
	a. Pilot Hole to 200 feet	EA	1			
	b. Reamed Hole to 200 feet	EA	1			
	c. Pilot Hole to 400 feet	EA	1			
	d. Completed Well to 400 feet	EA	1			
I-27.	FURNISH AND INSTALL CASING:					
	a. 16-inch Dia. Carbon Steel	FT	200			
	a. 8 5/8-inch Dia. FRP	FT	350			
I-28.	GROUTING - Cement Casings from Bottom to Land Surface and Pilot Holes					
	a. Neat cement with up to 8% bentonite gel	FT3	1000			
I-29.	GRAVEL - Furnish and Emplace Clean Gravel Used to Plug Cavities	YD3	5			
I-30.	PACKER TEST SETUP - Furnish, Setup, Operate, and Remove all Equip. Necessary to Run Packer Pumping Test, Complete	EA	2			
I-31.	PACKER TESTING PUMPING TIME	HR	24			
I-32.	WELL DEVELOPMENT	HR	16			
I-33.	WELLHEAD - Complete Wellhead in accordance with the Drawings	LS	1			
I-34.	STANDBY TIME	HR	24			
I-35.	EXTRA WORK - Furnish Drilling Rig and Crew to Perform Extra Work Not Included in the Specifications When Directed by the ENGINEER	HR	10			
I-36.	WATER SAMPLING - Water Sampling in Accordance with Section 02311 for:					
	a. Exhibit 1, List A	EA	5			
	b. Exhibit 1, List B	EA	2			
	c. Exhibit 1, List C	EA	1			

TOTAL MW-1

written amount

PHASE II - Unit Price Bid Schedule (RW-2, RW-3, RW-4, RW-5, MW-2, MW-3, MW-4, MW-5)

PHASE II Recharge Well RW-2

Pay Item	Description	Unit	Est. QTY	Unit Cost	Unit Cost (written)	Computed Total Price for Item
II-1.	MOBILIZATION AND DEMOBILIZATION - Mobilize and Demobilize All Equipment to Complete Drilling and Testing Activities	LS	1			
II-2.	SET PIT CASING - Set 48-inch Pit Casing	LS	1			
II-3.	DRILL PILOT HOLE - Drill Pilot Hole Using Mud Rotary or Reverse-Air Drilling Techniques to Depth of:					
	a. 200 feet (Mud Rotary)	FT	200			
	b. 450 feet (Reverse-air)	FT	250			
	c. 1,300 feet (Reverse-air)	FT	850			
II-4.	PILOT HOLE REAMING or OPEN HOLE to Depth of:					
	a. 47-inch Diameter to 200 feet (Mud Rotary)	FT	200			
	b. 41-inch Diameter to 450 feet (Reverse-air)	FT	250			
	c. 33-inch Diameter to 650 feet (Reverse-air)	FT	200			
II-5.	GEOPHYSICAL LOGGING - Conduct Geophysical Logs in Accordance with Table 1 of Section 02679					
	a. Pilot Hole to 200 feet	EA	1			
	b. Reamed Hole to 200 feet	EA	1			
	c. Pilot Hole to 450 feet	EA	1			
	d. Reamed Hole to 450 feet	EA	1			
	e. Pilot Hole to 1,300 feet	EA	1			
	f. Reamed Hole to 650 feet	EA	1			
	g. Completed Well to 1,200 feet, including MIT	EA	1			
II-6.	FURNISH AND INSTALL CASING:					
	a. 42-inch Dia. Carbon Steel	FT	200			
	b. 34-inch Dia. Carbon Steel	FT	450			
	c. 24-inch Dia. Carbon Steel	FT	650			
II-7.	GROUTING - Cement Casings from Bottom to Land Surface and Pilot Holes					
	a. Neat cement with up to 8% bentonite gel	FT3	7800			
	b. Bridge Plug	LS	1			
II-8.	GRAVEL - Furnish and Emplace Clean Gravel Used to Plug Cavities	YD3	10			
II-9.	PRESSURE TEST CASING - Final Casing Prior to Drilling Out Cement Plug	LS	1			
II-10.	CORING - Provide 10-Foot Length, 4-Inch Diameter Cores at Selected Intervals	EA	5			
II-11.	PACKER TEST SETUP - Furnish, Setup, Operate, and Remove all Equip. Necessary to Run Packer Pumping Test, Complete	EA	8			
II-12.	PACKER TESTING PUMPING TIME	HR	120			
II-13.	PUMPING TEST SETUP	LS	1			

Pay Item	Description	Unit	Est. QTY	Unit Cost	Unit Cost (written)	Computed Total Price for Item
II-14.	PUMPING TEST PUMPING TIME	HR	4			
II-15.	WELL DEVELOPMENT	HR	24			
II-16.	WELLHEAD - Complete Wellhead in accordance with the Drawings	LS	1			
II-17.	STANDBY TIME	HR	48			
II-18.	EXTRA WORK - Furnish Drilling Rig and Crew to Perform Extra Work Not Included in the Specifications When Directed by the ENGINEER	HR	20			
II-19.	WATER SAMPLING - Water Sampling in Accordance with Section 02311 for:					
	a. Exhibit 1, List A	EA	12			
	b. Exhibit 1, List B	EA	15			
	c. Exhibit 1, List C	EA	1			

TOTAL RW-2 _____
written amount

PHASE II - Monitor Well MW-2

Pay Item	Description	Unit	Est. QTY	Unit Cost	Unit Cost (written)	Computed Total Price for Item
II-20.	MOBILIZATION AND DEMOBILIZATION - Mobilize and Demobilize All Equipment to Complete Drilling and Testing Activities	LS	1			
II-21.	SET PIT CASING - Set 24-inch Pit Casing	LS	1			
II-22.	DRILL PILOT HOLE - Drill Pilot Hole Using Mud Rotary or Reverse-Air Drilling Techniques to Depth of:					
	a. 200 feet (Mud Rotary)	FT	200			
	b. 400 feet (Reverse-air, 15-inch diameter)	FT	200			
II-23.	PILOT HOLE REAMING or OPEN HOLE to Depth of:					
	a. 23-inch Diameter to 200 feet (Mud Rotary)	FT	150			
II-24.	GEOPHYSICAL LOGGING - Conduct Geophysical Logs in Accordance with Table 1 of Section 02679					
	a. Pilot Hole to 200 feet	EA	1			
	b. Reamed Hole to 200 feet	EA	1			
	c. Pilot Hole to 400 feet	EA	1			
	d. Completed Well to 400 feet	EA	1			
II-25.	FURNISH AND INSTALL CASING:					
	a. 16-inch Dia. Carbon Steel	FT	200			
	a. 8 5/8-inch Dia. FRP	FT	350			
II-26.	GROUTING - Cement Casings from Bottom to Land Surface and Pilot Holes					
	a. Neat cement with up to 8% bentonite gel	FT3	1000			
II-27.	GRAVEL - Furnish and Emplace Clean Gravel Used to Plug Cavities	YD3	5			
II-28.	PACKER TEST SETUP - Furnish, Setup, Operate, and Remove all Equip. Necessary to Run Packer Pumping Test, Complete	EA	2			
II-29.	PACKER TESTING PUMPING TIME	HR	24			
II-30.	WELL DEVELOPMENT	HR	16			
II-31.	WELLHEAD - Complete Wellhead in accordance with the Drawings	LS	1			
II-32.	STANDBY TIME	HR	24			
II-33.	EXTRA WORK - Furnish Drilling Rig and Crew to Perform Extra Work Not Included in the Specifications When Directed by the ENGINEER	HR	10			
II-34.	WATER SAMPLING - Water Sampling in Accordance with Section 02311 for:					
	a. Exhibit 1, List A	EA	5			
	b. Exhibit 1, List B	EA	2			
	c. Exhibit 1, List C	EA	1			

TOTAL MW-2

 written amount

PHASE II Recharge Well RW-3

Pay Item	Description	Unit	Est. QTY	Unit Cost	Unit Cost (written)	Computed Total Price for Item
II-35.	MOBILIZATION AND DEMOBILIZATION - Mobilize and Demobilize All Equipment to Complete Drilling and Testing Activities	LS	1			
II-36.	SET PIT CASING - Set 48-inch Pit Casing	LS	1			
II-37.	DRILL PILOT HOLE - Drill Pilot Hole Using Mud Rotary or Reverse-Air Drilling Techniques to Depth of:					
	a. 200 feet (Mud Rotary)	FT	200			
	b. 450 feet (Reverse-air)	FT	250			
	c. 1,300 feet (Reverse-air)	FT	850			
II-38.	PILOT HOLE REAMING or OPEN HOLE to Depth of:					
	a. 47-inch Diameter to 200 feet (Mud Rotary)	FT	200			
	b. 41-inch Diameter to 450 feet (Reverse-air)	FT	250			
	c. 33-inch Diameter to 650 feet (Reverse-air)	FT	200			
II-39.	GEOPHYSICAL LOGGING - Conduct Geophysical Logs in Accordance with Table 1 of Section 02679					
	a. Pilot Hole to 200 feet	EA	1			
	b. Reamed Hole to 200 feet	EA	1			
	c. Pilot Hole to 450 feet	EA	1			
	d. Reamed Hole to 450 feet	EA	1			
	e. Pilot Hole to 1,300 feet	EA	1			
	f. Reamed Hole to 650 feet	EA	1			
	g. Completed Well to 1,200 feet, including MIT	EA	1			
II-40.	FURNISH AND INSTALL CASING:					
	a. 42-inch Dia. Carbon Steel	FT	200			
	b. 34-inch Dia. Carbon Steel	FT	450			
	c. 24-inch Dia. Carbon Steel	FT	650			
II-41.	GROUTING - Cement Casings from Bottom to Land Surface and Pilot Holes					
	a. Neat cement with up to 8% bentonite gel	FT3	7800			
	b. Bridge Plug	LS	1			
II-42.	GRAVEL - Furnish and Emplace Clean Gravel Used to Plug Cavities	YD3	10			
II-43.	PRESSURE TEST CASING - Final Casing Prior to Drilling Out Cement Plug	LS	1			
II-44.	CORING - Provide 10-Foot Length, 4-Inch Diameter Cores at Selected Intervals	EA	5			
II-45.	PACKER TEST SETUP - Furnish, Setup, Operate, and Remove all Equip. Necessary to Run Packer Pumping Test, Complete	EA	8			
II-46.	PACKER TESTING PUMPING TIME	HR	120			
II-47.	PUMPING TEST SETUP	LS	1			
II-48.	PUMPING TEST PUMPING TIME	HR	4			
II-49.	WELL DEVELOPMENT	HR	24			
II-50.	WELLHEAD - Complete Wellhead in accordance with the Drawings	LS	1			
II-51.	STANDBY TIME	HR	48			

Pay Item	Description	Unit	Est. QTY	Unit Cost	Unit Cost (written)	Computed Total Price for Item
II-52.	EXTRA WORK - Furnish Drilling Rig and Crew to Perform Extra Work Not Included in the Specifications When Directed by the ENGINEER	HR	20			
II-53.	WATER SAMPLING - Water Sampling in Accordance with Section 02311 for:					
	a. Exhibit 1, List A	EA	12			
	b. Exhibit 1, List B	EA	15			
	c. Exhibit 1, List C	EA	1			

TOTAL RW-3

written amount

PHASE II - Monitor Well MW-3

Pay Item	Description	Unit	Est. QTY	Unit Cost	Unit Cost (written)	Computed Total Price for Item
II-54.	MOBILIZATION AND DEMOBILIZATION - Mobilize and Demobilize All Equipment to Complete Drilling and Testing Activities	LS	1			
II-55.	SET PIT CASING - Set 24-inch Pit Casing	LS	1			
II-56.	DRILL PILOT HOLE - Drill Pilot Hole Using Mud Rotary or Reverse-Air Drilling Techniques to Depth of:					
	a. 200 feet (Mud Rotary)	FT	200			
	b. 400 feet (Reverse-air, 15-inch diameter)	FT	200			
II-57.	PILOT HOLE REAMING or OPEN HOLE to Depth of:					
	a. 23-inch Diameter to 200 feet (Mud Rotary)	FT	150			
II-58.	GEOPHYSICAL LOGGING - Conduct Geophysical Logs in Accordance with Table 1 of Section 02679					
	a. Pilot Hole to 200 feet	EA	1			
	b. Reamed Hole to 200 feet	EA	1			
	c. Pilot Hole to 400 feet	EA	1			
	d. Completed Well to 400 feet	EA	1			
II-59.	FURNISH AND INSTALL CASING:					
	a. 16-inch Dia. Carbon Steel	FT	200			
	a. 8 5/8-inch Dia. FRP	FT	350			
II-60.	GROUTING - Cement Casings from Bottom to Land Surface and Pilot Holes					
	a. Neat cement with up to 8% bentonite gel	FT3	1000			
II-61.	GRAVEL - Furnish and Emplace Clean Gravel Used to Plug Cavities	YD3	5			
II-62.	PACKER TEST SETUP - Furnish, Setup, Operate, and Remove all Equip. Necessary to Run Packer Pumping Test, Complete	EA	2			
II-63.	PACKER TESTING PUMPING TIME	HR	24			
II-64.	WELL DEVELOPMENT	HR	16			
II-65.	WELLHEAD - Complete Wellhead in accordance with the Drawings	LS	1			
II-66.	STANDBY TIME	HR	24			
II-67.	EXTRA WORK - Furnish Drilling Rig and Crew to Perform Extra Work Not Included in the Specifications When Directed by the ENGINEER	HR	10			
II-68.	WATER SAMPLING - Water Sampling in Accordance with Section 02311 for:					
	a. Exhibit 1, List A	EA	5			
	b. Exhibit 1, List B	EA	2			
	c. Exhibit 1, List C	EA	1			

TOTAL MW-3

written amount

PHASE II Recharge Well RW-4

Pay Item	Description	Unit	Est. QTY	Unit Cost	Unit Cost (written)	Computed Total Price for Item
II-69.	MOBILIZATION AND DEMOBILIZATION - Mobilize and Demobilize All Equipment to Complete Drilling and Testing Activities	LS	1			
II-70.	SET PIT CASING - Set 48-inch Pit Casing	LS	1			
II-71.	DRILL PILOT HOLE - Drill Pilot Hole Using Mud Rotary or Reverse-Air Drilling Techniques to Depth of:					
	a. 200 feet (Mud Rotary)	FT	200			
	b. 450 feet (Reverse-air)	FT	250			
	c. 1,300 feet (Reverse-air)	FT	850			
II-72.	PILOT HOLE REAMING or OPEN HOLE to Depth of:					
	a. 47-inch Diameter to 200 feet (Mud Rotary)	FT	200			
	b. 41-inch Diameter to 450 feet (Reverse-air)	FT	250			
	c. 33-inch Diameter to 650 feet (Reverse-air)	FT	200			
II-73.	GEOPHYSICAL LOGGING - Conduct Geophysical Logs in Accordance with Table 1 of Section 02679					
	a. Pilot Hole to 200 feet	EA	1			
	b. Reamed Hole to 200 feet	EA	1			
	c. Pilot Hole to 450 feet	EA	1			
	d. Reamed Hole to 450 feet	EA	1			
	e. Pilot Hole to 1,300 feet	EA	1			
	f. Reamed Hole to 650 feet	EA	1			
	g. Completed Well to 1,200 feet, including MIT	EA	1			
II-74.	FURNISH AND INSTALL CASING:					
	a. 42-inch Dia. Carbon Steel	FT	200			
	b. 34-inch Dia. Carbon Steel	FT	450			
	c. 24-inch Dia. Carbon Steel	FT	650			
II-75.	GROUTING - Cement Casings from Bottom to Land Surface and Pilot Holes					
	a. Neat cement with up to 8% bentonite gel	FT3	7800			
	b. Bridge Plug	LS	1			
II-76.	GRAVEL - Furnish and Emplace Clean Gravel Used to Plug Cavities	YD3	10			
II-77.	PRESSURE TEST CASING - Final Casing Prior to Drilling Out Cement Plug	LS	1			
II-78.	CORING - Provide 10-Foot Length, 4-Inch Diameter Cores at Selected Intervals	EA	5			
II-79.	PACKER TEST SETUP - Furnish, Setup, Operate, and Remove all Equip. Necessary to Run Packer Pumping Test, Complete	EA	8			
II-80.	PACKER TESTING PUMPING TIME	HR	120			
II-81.	PUMPING TEST SETUP	LS	1			
II-82.	PUMPING TEST PUMPING TIME	HR	4			
II-83.	WELL DEVELOPMENT	HR	24			
II-84.	WELLHEAD - Complete Wellhead in accordance with the Drawings	LS	1			
II-85.	STANDBY TIME	HR	48			

Pay Item	Description	Unit	Est. QTY	Unit Cost	Unit Cost (written)	Computed Total Price for Item
II-86.	EXTRA WORK - Furnish Drilling Rig and Crew to Perform Extra Work Not Included in the Specifications When Directed by the ENGINEER	HR	20			
II-87.	WATER SAMPLING - Water Sampling in Accordance with Section 02311 for:					
	a. Exhibit 1, List A	EA	12			
	b. Exhibit 1, List B	EA	15			
	c. Exhibit 1, List C	EA	1			

TOTAL RW-4

written amount

PHASE II - Monitor Well MW-4

Pay Item	Description	Unit	Est. QTY	Unit Cost	Unit Cost (written)	Computed Total Price for Item
II-88.	MOBILIZATION AND DEMOBILIZATION - Mobilize and Demobilize All Equipment to Complete Drilling and Testing Activities	LS	1			
II-89.	SET PIT CASING - Set 24-inch Pit Casing	LS	1			
II-90.	DRILL PILOT HOLE - Drill Pilot Hole Using Mud Rotary or Reverse-Air Drilling Techniques to Depth of:					
	a. 200 feet (Mud Rotary)	FT	200			
	b. 400 feet (Reverse-air, 15-inch diameter)	FT	200			
II-91.	PILOT HOLE REAMING or OPEN HOLE to Depth of:					
	a. 23-inch Diameter to 200 feet (Mud Rotary)	FT	150			
II-92.	GEOPHYSICAL LOGGING - Conduct Geophysical Logs in Accordance with Table 1 of Section 02679					
	a. Pilot Hole to 200 feet	EA	1			
	b. Reamed Hole to 200 feet	EA	1			
	c. Pilot Hole to 400 feet	EA	1			
	d. Completed Well to 400 feet	EA	1			
II-93.	FURNISH AND INSTALL CASING:					
	a. 16-inch Dia. Carbon Steel	FT	200			
	a. 8 5/8-inch Dia. FRP	FT	350			
II-94.	GROUTING - Cement Casings from Bottom to Land Surface and Pilot Holes					
	a. Neat cement with up to 8% bentonite gel	FT3	1000			
II-95.	GRAVEL - Furnish and Emplace Clean Gravel Used to Plug Cavities	YD3	5			
II-96.	PACKER TEST SETUP - Furnish, Setup, Operate, and Remove all Equip. Necessary to Run Packer Pumping Test, Complete	EA	2			
II-97.	PACKER TESTING PUMPING TIME	HR	24			
II-98.	WELL DEVELOPMENT	HR	16			
II-99.	WELLHEAD - Complete Wellhead in accordance with the Drawings	LS	1			
II-100.	STANDBY TIME	HR	24			
II-101.	EXTRA WORK - Furnish Drilling Rig and Crew to Perform Extra Work Not Included in the Specifications When Directed by the ENGINEER	HR	10			
II-102.	WATER SAMPLING - Water Sampling in Accordance with Section 02311 for:					
	a. Exhibit 1, List A	EA	5			
	b. Exhibit 1, List B	EA	2			
	c. Exhibit 1, List C	EA	1			

TOTAL MW-4

written amount

PHASE II Recharge Well RW-5

Pay Item	Description	Unit	Est. QTY	Unit Cost	Unit Cost (written)	Computed Total Price for Item
II-103.	MOBILIZATION AND DEMOBILIZATION - Mobilize and Demobilize All Equipment to Complete Drilling and Testing Activities	LS	1			
II-104.	SET PIT CASING - Set 48-inch Pit Casing	LS	1			
II-105.	DRILL PILOT HOLE - Drill Pilot Hole Using Mud Rotary or Reverse-Air Drilling Techniques to Depth of:					
	a. 200 feet (Mud Rotary)	FT	200			
	b. 450 feet (Reverse-air)	FT	250			
	c. 1,300 feet (Reverse-air)	FT	850			
II-106.	PILOT HOLE REAMING or OPEN HOLE to Depth of:					
	a. 47-inch Diameter to 200 feet (Mud Rotary)	FT	200			
	b. 41-inch Diameter to 450 feet (Reverse-air)	FT	250			
	c. 33-inch Diameter to 650 feet (Reverse-air)	FT	200			
II-107.	GEOPHYSICAL LOGGING - Conduct Geophysical Logs in Accordance with Table 1 of Section 02679					
	a. Pilot Hole to 200 feet	EA	1			
	b. Reamed Hole to 200 feet	EA	1			
	c. Pilot Hole to 450 feet	EA	1			
	d. Reamed Hole to 450 feet	EA	1			
	e. Pilot Hole to 1,300 feet	EA	1			
	f. Reamed Hole to 650 feet	EA	1			
	g. Completed Well to 1,200 feet, including MIT	EA	1			
II-108.	FURNISH AND INSTALL CASING:					
	a. 42-inch Dia. Carbon Steel	FT	200			
	b. 34-inch Dia. Carbon Steel	FT	450			
	c. 24-inch Dia. Carbon Steel	FT	650			
II-109.	GROUTING - Cement Casings from Bottom to Land Surface and Pilot Holes					
	a. Neat cement with up to 8% bentonite gel	FT3	7800			
	b. Bridge Plug	LS	1			
II-110.	GRAVEL - Furnish and Emplace Clean Gravel Used to Plug Cavities	YD3	10			
II-111.	PRESSURE TEST CASING - Final Casing Prior to Drilling Out Cement Plug	LS	1			
II-112.	CORING - Provide 10-Foot Length, 4-Inch Diameter Cores at Selected Intervals	EA	5			
II-113.	PACKER TEST SETUP - Furnish, Setup, Operate, and Remove all Equip. Necessary to Run Packer Pumping Test, Complete	EA	8			
II-114.	PACKER TESTING PUMPING TIME	HR	120			
II-115.	PUMPING TEST SETUP	LS	1			
II-116.	PUMPING TEST PUMPING TIME	HR	4			
II-117.	WELL DEVELOPMENT	HR	24			
II-118.	WELLHEAD - Complete Wellhead in accordance with the Drawings	LS	1			
II-119.	STANDBY TIME	HR	48			

Pay Item	Description	Unit	Est. QTY	Unit Cost	Unit Cost (written)	Computed Total Price for Item
II-120.	EXTRA WORK - Furnish Drilling Rig and Crew to Perform Extra Work Not Included in the Specifications When Directed by the ENGINEER	HR	20			
II-121.	WATER SAMPLING - Water Sampling in Accordance with Section 02311 for:					
	a. Exhibit 1, List A	EA	12			
	b. Exhibit 1, List B	EA	15			
	c. Exhibit 1, List C	EA	1			

TOTAL RW-5

written amount

PHASE II - Monitor Well MW-5

Pay Item	Description	Unit	Est. QTY	Unit Cost	Unit Cost (written)	Computed Total Price for Item
II-122.	MOBILIZATION AND DEMOBILIZATION - Mobilize and Demobilize All Equipment to Complete Drilling and Testing Activities	LS	1			
II-123.	SET PIT CASING - Set 24-inch Pit Casing	LS	1			
II-124.	DRILL PILOT HOLE - Drill Pilot Hole Using Mud Rotary or Reverse-Air Drilling Techniques to Depth of:					
	a. 200 feet (Mud Rotary)	FT	200			
	b. 400 feet (Reverse-air, 15-inch diameter)	FT	200			
II-125.	PILOT HOLE REAMING or OPEN HOLE to Depth of:					
	a. 23-inch Diameter to 200 feet (Mud Rotary)	FT	150			
II-126.	GEOPHYSICAL LOGGING - Conduct Geophysical Logs in Accordance with Table 1 of Section 02679					
	a. Pilot Hole to 200 feet	EA	1			
	b. Reamed Hole to 200 feet	EA	1			
	c. Pilot Hole to 400 feet	EA	1			
	d. Completed Well to 400 feet	EA	1			
II-127.	FURNISH AND INSTALL CASING:					
	a. 16-inch Dia. Carbon Steel	FT	200			
	a. 8 5/8-inch Dia. FRP	FT	350			
II-128.	GROUTING - Cement Casings from Bottom to Land Surface and Pilot Holes					
	a. Neat cement with up to 8% bentonite gel	FT3	1000			
II-129.	GRAVEL - Furnish and Emplace Clean Gravel Used to Plug Cavities	YD3	5			
II-130.	PACKER TEST SETUP - Furnish, Setup, Operate, and Remove all Equip. Necessary to Run Packer Pumping Test, Complete	EA	2			
II-131.	PACKER TESTING PUMPING TIME	HR	24			
II-132.	WELL DEVELOPMENT	HR	16			
II-133.	WELLHEAD - Complete Wellhead in accordance with the Drawings	LS	1			
II-134.	STANDBY TIME	HR	24			
II-135.	EXTRA WORK - Furnish Drilling Rig and Crew to Perform Extra Work Not Included in the Specifications When Directed by the ENGINEER	HR	10			
II-136.	WATER SAMPLING - Water Sampling in Accordance with Section 02311 for:					
	a. Exhibit 1, List A	EA	5			
	b. Exhibit 1, List B	EA	2			
	c. Exhibit 1, List C	EA	1			

TOTAL MW-5

written amount

PHASE III - WELL ACIDIZATION (all Recharge Wells)

Pay Item	Description	Unit	Est. QTY	Unit Cost	Unit Cost (written)	Computed Total Price for Item
III-1.	ACIDIZATION SET UP - If Required, Mobilize all Equip. Necessary to Acidize Recharge Well	EA	5			
III-2.	FURNISH AND EMLACE ACID -Furnish and Emplace 32% Inhibited HCL Acid	1000 GAL	50			

Well Acidization (5 wells)	
written amount	
Total PHASE I – RW-1 and MW-1	
written amount	
Total PHASE II – RW-2, RW-3, RW-4, RW-5, MW-2, MW-3, MW-4, MW-5	
written amount	
Alternate 1: Total PHASE III – Well Acidization RW-1, RW-2, RW-3, RW-4, RW-5	
written amount	
Contingency	Two hundred and fifty thousand dollars and no cents \$ 250,000
written amount	
Total Bid - PHASE I, PHASE II, and PHASE III w/ Contingency	
written amount	(U.S. Dollars)

A Computed Total of

_____ Dollars \$ _____

Bidder acknowledges that the following addenda have been received and that the changes covered by the addendum(s) have been taken into account in this proposal: #1 _____ #2 _____ #3 _____ #4 _____ #5 _____ #6 _____ #7 _____ #8 _____.

Bidder acknowledges the requirements of the City of Tampa’s Equal Business Opportunity Program.

Bidder acknowledges that it is aware of Florida’s Trench Safety Act (Sections 553.60-553.64, Florida Statutes), and agrees that Bidder together with any involved subcontractors will comply with all applicable trench safety standards. Bidder further acknowledges that included in the various items of this Proposal and the total bid price (as applicable) are costs for complying with the Trench Safety Act. Bidder further identifies the costs and methods summarized below:

	Trench Safety Measure (Description)	Unit of Measure (LF, SY)	Unit Quantity	Unit Cost	Extended Cost
A.	_____	_____	_____	_____	_____
B.	_____	_____	_____	_____	_____
C.	_____	_____	_____	_____	_____

Total Cost: \$ _____

Accompanying this Proposal is a certified check, cashier’s check or Tampa Bid Bond (form included herein must be used) for at least five percent (5%) of the total amount of the Proposal which check shall become the property of the City, or which bond shall become forthwith due and payable to the City, if this Proposal shall be accepted by the City and the Bidder shall fail to enter into a legally binding

Tampa Construction Specifications
Contract 26-C-00029; Howard F. Curren AWTP Aquifer Recharge Wells Construction

contract with and to furnish the required Public Construction Bond to the City within twenty (20) days after the date of its receipt of written Notice of Award by the City so to do.

FAILURE TO COMPLETE THE ABOVE MAY RESULT IN THE PROPOSAL BEING DECLARED NON-RESPONSIVE.

Name of Bidder: _____

Authorized Signature: _____

Signer's Printed Name: _____

Signer's Title: _____

STATE OF _____

COUNTY OF _____

The forgoing instrument was sworn (or affirmed) before me this ____ day of _____,
20__ by _____ as
_____ of _____,

a/n Partnership Joint Venture LLC Corp Other: _____, on behalf of such entity.

Such individual is personally known to me or produced a/n _____ state driver's license as identification.

[NOTARY SEAL]

Notary Public, State of _____

Notary Printed Name: _____

Commission No.: _____

My Commission Expires: _____

ATTESTATION OF COMPLIANCE WITH FOREIGN COUNTRIES OF CONCERN PURSUANT TO SECTION 287.138, FLORIDA STATUTES, CONVICTED VENDOR LIST (PUBLIC ENTITY CRIME) PURSUANT TO SECTION 287.133, FLORIDA STATUTES, PROHIBITION AGAINST CONTRACTING WITH SCRUTINIZED COMPANIES PURSUANT TO SECTION 287.135, FLORIDA STATUTES, PROHIBITION AGAINST HUMAN TRAFFICKING PURSUANT TO SECTION 787.06, FLORIDA STATUTES, AND COMPLIANCE WITH E-VERIFY PURSUANT TO SECTION 448.095, FLORIDA STATUTES

This form must be completed by an Officer of an Entity submitting a bid, proposal, or reply to, or entering into, renewing, or extending a contract with the City of Tampa.

Public Entity Crimes

1. Officer understands that a “person” or “affiliate” who has been placed on the “convicted vendor list” following a “conviction” for a “public entity crime” (as those terms are defined in Section 287.133, Florida Statutes) for a period of 36 months following the date of being placed on the convicted vendor list, is ineligible to contract with or submit a bid, proposal or reply to contract with the City of Tampa. Business Entities placed on either the “discriminatory vendor list” or “antitrust vendor list” are ineligible to transact business with the City of Tampa.
2. Officer understands and attests that neither Officer, nor any person or affiliate of the Entity, nor the Entity have been placed on any of the above referenced vendor lists that would render the Entity ineligible to contract with or submit a bid, proposal or reply to contract with the City of Tampa.

Scrutinized Companies

3. Officer understands that pursuant to Section 287.135(2)(a), Florida Statutes, if the value of the contract is one hundred thousand dollars or more, the Entity would be ineligible to contract with or submit a bid, proposal or reply to contract with the City of Tampa if the Entity is on the “Scrutinized Companies or Other Entities that Boycott Israel List” (created pursuant

to Section 215.4725, Florida Statutes); or is engaged in a boycott of Israel; or if the value of the contract is one million dollars or more if, at the time of bidding on, submitting a proposal or reply for, or entering into or renewing a contract, the Entity is ineligible to contract with the City of Tampa if the Entity:

a. Is on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in Iran Terrorism Sectors List, created pursuant to Section 215.473, Florida Statutes; or

b. Is engaged in business operations in Cuba or Syria.

4. Officer attests that neither Officer nor the Entity are on the Scrutinized Companies or Other Entities that Boycott Israel List, Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in Iran Terrorism Sectors List, nor is either engaged in a boycott of Israel, and understand that any resulting contract may be terminated for a falsification of this Attestation.

E-Verify

5. Officer understands and attests that pursuant to Section 448.095(5), Florida Statutes, the Entity must comply with Florida's E-Verify law to enter into a contract with the City of Tampa.

6. The undersigned Entity is registered with and uses the United States Department of Homeland Security's E-Verify system to verify the work authorization status of all new employees.

7. No public employer has terminated a contract with the Entity pursuant to Section 448.095(5), Florida Statutes, within the year immediately preceding the date of contracting or submitting a bid, proposal or reply to contract with the City of Tampa.

8. Entity is currently in compliance and will remain in compliance, for the duration of any contract with the City of Tampa, with all requirements of Section 448.095(5), Florida Statutes.

9. Officer understands and attests that, if there is a good faith belief that the Entity has knowingly violated Section 448.09(1), Florida Statutes, there is an obligation on the part of the City of Tampa to terminate a contract pursuant to Section 448.095(5), Florida Statutes.

10. Officer understands and attests that, if there is a good faith belief that one of Entity's subcontractor(s) has knowingly violated the Section 448.09(1), Florida Statutes, but the Entity has otherwise complied with its obligations thereunder, then the Entity will be required to immediately terminate the contract with the subcontractor in order to continue providing services to the City of Tampa.

Anti-Human Trafficking

11. Officer hereby understands and attests that the undersigned Entity does not use coercion of labor or services as those terms are defined in section 787.06(2), Florida Statutes.

12. Officer attests to the best of his/her knowledge that commodities offered to the City by the Entity have not been produced, in whole or in part, by forced labor. Any contract that the City may enter into with Entity if Entity is placed on the forced labor vendor list.

Compliance with Foreign Countries of Concern

13. Officer, on behalf of the Entity attest to the following:

- a. Entity is not owned by the government of a foreign country of concern as defined in Section 287.138, Florida Statutes. (Source: § 287.138, Florida Statutes.)
- b. The government of a foreign country of concern does not have a controlling interest in the Entity. (Source: § 287.138(2)(b), Florida Statutes.)
- c. Entity is not organized under the laws of, and does not have a principal place of business in a foreign country of concern. (Source: § 287.138(2)(c), Florida Statutes.)

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Under penalties of perjury, I declare that I have read the foregoing statement and that the facts stated in it are true.

Entity Name: _____

Officer's Printed Name: _____

Officer's Title: _____

Signature: _____

Date: _____

Good Faith Effort Compliance Plan (GFECP) Guidelines

for Small Local Business Enterprise Participation
City of Tampa - Equal Business Opportunity Program
(DMI 50 Form – See detailed instructions on page 3 of 3)

Contract Name _____ Bid Date _____
Bidder/Proposer _____
Signature _____ Date _____
Name _____ Title _____

The Compliance Plan with attachments is a true account of Good Faith Efforts (GFE) made to achieve the participation goals as specified for Small Local Business Enterprises (SLBE) on the referenced contract:

- ☐ SLBE participation **Goal is Not Specified for this Solicitation** however participation is aspirational and GFECP is required.
- ☐ SLBE participation **Goal is Met or Exceeded** (refer to Goal-Set DMI-90 Form).
- ☐ SLBE participation Goal is **Not Fully Achieved** (refer to Goal-Set DMI-90 Form).

For each checkbox above Bidders/Proposers shall submit DMI Forms 10 and 20 which accurately report all subcontractors solicited and all subcontractors to-be-utilized. The following list is an overview of the required baseline GFECP action steps for all bids/proposals. Furthermore, it is understood that these GFECP requirements are weighted in the compliance evaluation based on the veracity and demonstrable degree of documentation provided with the bid/proposal:

(Check applicable boxes below - Must enclose supporting documents accordingly with Qualifying Remarks)

- (1) Solicited through reasonable and available means the interest of SLBEs that have the capability to perform the work of the contract. The Bidder or Proposer must solicit this interest within enough time to allow the SLBEs to respond. The Bidder or Proposer must take appropriate steps to follow up initial solicitations with interested SLBEs. ☐ **See DMI report forms for subcontractors solicited.** ☐ **See enclosed supplemental data on solicitation efforts.**
 - ☐ **Qualifying Remarks**
- (2) Provided interested SLBEs with adequate, specific scope information about the plans, specifications, and requirements of the contract, including addenda, in a timely manner to assist them in responding to the requested scope identified by bidder/proposer for the solicitation. ☐ **See enclosed actual solicitations used.**
 - ☐ **Qualifying Remarks**
- (3) Negotiated in good faith with interested SLBEs that have submitted bids (e.g. adjusted quantities or scale). Documentation of negotiation must include the names, addresses, and telephone numbers of SLBEs that were solicited; the date of each such solicitation; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why agreements could not be reached with SLBEs to perform the work. Additional costs involved in soliciting and using subcontractors is not a sufficient reason for a bidder/proposer's failure to meet goals or achieve participation, as long as such costs are reasonable. Bidders are not required to accept excessive quotes in order to meet the goal.
 - ☐ **DMI Utilized Forms for sub-(contractor/consultant) reflect genuine negotiations** ☐ **This project is an RFQ/RFP in nature and negotiations are limited to clarifications of scope/percentages, specifications, qualifications and subs fee schedules.**
 - ☐ **See enclosed documentation.**
 - ☐ **Qualifying Remarks**
- (4) Not rejecting SLBEs as being unqualified without justification based on a thorough investigation of their capabilities. The SLBEs standing within its industry, membership in specific groups, organizations / associations and political or social affiliations are not legitimate causes for rejecting or not soliciting bids to meet the goals.
 - ☐ **Not applicable.** ☐ **See attached justification for rejection of a subcontractor's bid or proposal.** ☐ **Qualifying Remarks**
- (5) Made scope(s) of work available to SLBE subcontractors and suppliers; and, segmented portions of the work or material consistent with the available SLBE subcontractors and suppliers, to facilitate meeting the goal. ☐ **In addition, Sub-Contractors could bid on their own choice of work or trade without restriction to a pre-determined portion.** ☐ **See enclosed comments.** ☐ **Qualifying Remarks**
- (6) Made good faith efforts, despite the ability or desire of Bidder/Proposer to perform the sub-tasks of a contract with its

own forces/organization. A Bidder/Proposer who desires to self-perform the sub-tasks of a contract must demonstrate good faith efforts if the goal has not been met. ☐ **Sub-Contractors were not prohibited from submitting bids/proposals and were solicited on work typically self-performed by the prime.** ☐ **Qualifying Remarks w/Documents**

- (7) Segmented the portions of the work to be performed by SLBEs in order to increase the likelihood that the goals will be met. This includes, where appropriate, breaking out contract work items into economically feasible units (quantities/scale) to facilitate SLBE participation, even when the Bidder/Proposer might otherwise prefer to perform these work items with its own forces. ☐ **Sub-Contractors could bid on their own choice of work or trade without restriction to a pre-determined portion.** ☐ **Sub-Contractors were not prohibited from submitting bids/proposals and were solicited on work typically self-performed by the prime.** ☐ **See enclosed comments.** ☐ **Qualifying Remarks**
- (8) Made efforts to assist interested SLBEs in obtaining bonding, lines of credit, or insurance as required by the City or contractor. ☐ **See enclosed documentation on initiatives undertaken and methods to accomplish.** ☐ **Qualifying Remarks**
- (9) Made efforts to assist interested SLBEs in obtaining necessary equipment, supplies, materials, or related assistance or services, including participation in an acceptable mentor-protégé program. ☐ **See enclosed documentation of initiatives and/or agreements.** ☐ **Qualifying Remarks**
- (10) Effectively used the services of the City and other organizations that provide assistance in the recruitment and placement of SLBEs. ☐ **See enclosed documentation of services engaged.** ☐ **Overview (attached) of tactical actions and resources employed toward recruitment**

Note: Any unsolicited information in support of your Bid/RFP Compliance must accompany your submittal. ☐ **Identify Information Submitted**



Participation Plan: Guidance for Complying with Good Faith Efforts Outreach (page 3 of 3)

- (1) All firms on the SLBE Goal Setting List must be solicited and documentation provided for email, fax, letters, phone calls, and other methods of outreach/communication with the listed firms. The DMI Solicited and DMI-Utilized forms must be completed for all firms solicited and all firms utilized. Other opportunities for subcontracting should be explored to attain participation. May consult Tampa EBO Office and/or research the online Data Management Business System Directory for Tampa certified SLBE firms.
- (2) Solicitation of SLBEs, via written or electronic notification, should provide specific information on the services needed, where plans can be reviewed and assistance offered in obtaining these, if required. Solicitations should be sent a minimum of a week (i.e. 5 city business days or more) before the bid/proposal date. Actual copies of the bidder's solicitation containing their scope-specific instructions should be provided.
- (3) With any quotes received, a follow-up should be made when needed to confirm detail scope of work. For any SLBE low quotes rejected, an explanation shall be provided detailing negotiation efforts.
- (4) If a low bid SLBE is rejected or deemed unqualified the contractor must provide an explanation and supporting documentation for this decision.
- (5) Prime shall break down portions of work into economical feasible opportunities for subcontracting. The SLBE directory may be useful in identifying additional subcontracting opportunities and certified firms not listed in the "SLBE Goal Setting Firms Contact List."
- (6) Contractor shall not preclude SLBEs from bidding on any part of work, even if the Contractor may desire to self-perform aspects of the work.
- (7) Contractor shall avoid relying solely on subcontracting those scopes of work where SLBE availability is not sufficient to attain pre-determined goals; including RFP/RFQ solicitations, all of which require GFECF compliance to achieve sub-consultant participation.
- (8) In its solicitations, the Bidder should offer assistance to SLBEs in obtaining bonding, insurance, et cetera, if required of subcontractors by the City or Prime Contractor.
- (9) In its solicitation, the Bidder should offer assistance in obtaining equipment for a specific job to SLBEs, if needed. This includes mobilization where applicable.
- (10) Contractor should use the services offered by such agencies as the Small Business Development Center (SBDC) @ University South Fla.; SBDC @ Hillsborough County Entrepreneur Collaborative Center; Hillsborough NAACP Empowerment Center; Hillsborough County Economic Development Department DM/DWBE/SBE Program and Prospera-Hispanic Business Assoc. to name a few for the recruitment and placement of available SLBEs.



Instructions for completing The Sub- (Contractor's/Consultants/ Suppliers) Solicited Form
(DMI 10 Form)

This form must be submitted with all bids or proposals. **All** subcontractors (regardless of ownership or size) solicited and subcontractors from whom unsolicited quotations were received must be included in this form. The instructions that follow correspond to the headings on the form required to be completed. **Note:** Ability or desire to perform all work shall not exempt the prime from Good Faith Efforts to achieve participation.

Contract No. This is the number assigned by the City of Tampa for the proposal.

- **Contract Name.** This is the name of the contract assigned by the City of Tampa for the bid or proposal.
- **Contractor Name.** The name of your business and/or doing business as (dba), if applicable.
- **Address.** The physical address of your business.
- **Federal ID. FIN.** A number assigned to your business for tax reporting purposes.
- **Phone.** Telephone number to contact the business.
- **Fax.** Fax number for business.
- **Email.** Provide email address for electronic correspondence.
- **No Firms were contacted or solicited for this contract.** Checking the box indicates that a pre-determined Subcontract Goal or Participation Plan Requirement was not set by the city, resulting in your business not using subcontractors and will self-perform all work. If, during the performance of the contract, you employ subcontractors, the City must pre-approve subcontractors. Use of the "Sub-(Contractors/Consultants/Suppliers) Payments" form (DMI 30 Form) must be submitted with every pay application and invoice. **Note:** Certified SLBE firms bidding as Primes are not exempt from outreach and solicitation of subcontractors.
- **No Firms were contacted because.** Provide a brief explanation of why no firms were contacted or solicited.
- **See attached documents.** Check the box if, after you have completed the DMI Form in its entirety, you need more space to list additional firms and/or if you have supplemental information/documentation relating to the form. All DMI data not submitted on the DMI 10 Form must be in the same format and include all the requested data from the DMI 10 Form.

The following instructions are for the information of all subcontractors solicited.

- **"S" = SLBE.** Enter "S" for firms Certified by the City as Small Local Business Enterprises; **"O" = non-certified others.**
- **Federal ID. FIN.** A number assigned to a business for tax reporting purposes. This information is critical in the proper identification and payment of the contractor/subcontractor.
- **Company Name, Address, Phone & Fax.** Provide company information for verification of payments.
- **Trade, Services, or Materials** indicate the trade, service, or materials provided by the subcontractor. NIGP codes, aka "National Institute of Governmental Purchasing," are listed in the top section of the document.
- **Contact Method L=letter, F=fax, E=Email, P=Phone.** Indicate with a letter the method(s) of soliciting for bids.
- **Quote or Resp. (response) Rec'd (received) Y/N.** Indicate "Y" Yes if you received a quotation or if you received a response to your solicitation. Indicate "N" No if you received no response to your solicitation from the subcontractor. Must keep records: log, ledger, documentation, etc. that can validate/verify.

If additional information is required or you have questions, please contact the Equal Business Opportunity Program - Office of Equal Business Opportunity at (813) 274-5522

Failure to Complete, Sign, and Submit Forms 10, 20, & 50 MAY render the Bid or Proposal Non-Responsive

Page 1 of 2 – DMI Solicited/Utilized** Schedules**
City of Tampa – Schedule of **All To-Be-Utilized Sub-(Contractors/Consultants/Suppliers)**
(DMI 20 Form)

Contract No.: _____ Contract Name: _____

Company Name: _____ Address: _____

Federal ID: _____ Phone: _____ Fax: _____ Email: _____

Check applicable box(es). Detailed Instructions for completing this form are on page 4 of 4.

☐ **See attached list of additional Firms Utilized and all supplemental information (List must comply with this form)**

Note: Form DMI-20 must list ALL subcontractors To-Be-Utilized.

☐ **No Subcontracting/consulting (of any kind) will be performed on this contract.**

☐ **No Firms are listed to be utilized because:** _____

NIGP Code General Categories: Buildings = 909, General = 912, Heavy = 913, Trades = 914, Architects = 906, Engineers & Surveyors = 925, Supplier = 912-77

↙ Enter "S" for firms Certified as Small Local Business Enterprises: "O" for Other Non-Certified

S = SLBE O =Neither Federal ID	Company Name Address Phone, Fax, Email	Trade, Services or Materials NIGP Code Listed above	\$ Amount of Quote. Letter of Intent (LOI) if available	Percent of Scope or Contract %

Total ALL Subcontract / Supplier Utilization \$ _____

Total SLBE Utilization \$ _____

Percent SLBE Utilization of Total Bid/Proposal Amt. _____%

It is hereby certified that the following information is a true and accurate account of utilization for sub-contracting opportunities on this Contract.

Signed: _____ Name/Title: _____ Date: _____

Failure to Complete, Sign and Submit Forms 10, 20, & 50 MAY render the Bid or Proposal Non-Responsive Forms must be included with Bid / Proposal

Page 2 of 2 DMI – Solicited/**Utilized**

Instructions for completing The Sub- (Contractor's/Consultants/ Suppliers) to be Utilized Form
(DMI 20 Form)

This form must be submitted with all bids or proposals. All subcontractors (regardless of ownership or size) projected to be utilized must be included in this form.

- **Contract No.** This is the number assigned by the City of Tampa for the proposal.
- **Contract Name.** This is the name of the contract assigned by the City of Tampa for the bid or proposal.
- **Contractor Name.** The name of your business and/or doing business as (dba) if applicable.
- **Address.** The physical address of your business.
- **Federal ID.** FIN. A number assigned to your business for tax reporting purposes.
- **Phone.** Telephone number to contact the business.
- **Fax.** Fax number for business.
- **Email.** Provide email address for electronic correspondence.
- **No Subcontracting/consulting (of any kind) will be performed on this contract.** Checking the box indicates your business will not use subcontractors when no Subcontract Goal or Participation Plan Requirement was set by the city but will self-perform all work. When subcontractors are utilized during the performance of the contract, the "Sub-(Contractors/Consultants/Suppliers) Payments" form (DMI 30 Form) must be submitted with every pay application and invoice. Note: Certified **SLBE firms** bidding as Primes **are not exempt** from outreach and solicitation of subcontractors, including completion and submission of Form-10 and Form-20.
- **No Firms listed To-Be-Utilized.** Check box: provide a brief explanation why no firms were retained when a goal or participation plan requirement was set on the contract. **Note: Mandatory compliance with Good Faith Effort outreach (GFECP) requirements applies (DMI 50 Form), and supporting documentation must accompany the bid.**
- **See attached documents.** Check the box if, after completing the DMI Form in its entirety, you need more space to list additional firms and/or if you have supplemental information/documentation relating to the scope/value/percent utilization of subcontractors. Reproduce copies of DMI-20 and attach. All data not submitted on duplicate forms must be in the same format and content as specified in these instructions.

The following instructions are for the information of all subcontractors To Be Utilized.

- **Federal ID.** FIN. A number assigned to a business for tax reporting purposes. This information is critical in the proper identification of the subcontractor.
- **"S" = SLBE,** enter **"S"** for firms Certified by the City as Small Local Business Enterprises; **"O" = non-certified others.**
- **Company Name, Address, Phone & Fax.** Provide company information for verification of payments.
- **Trade, Services, or Materials (NIGP code if known).** Indicate the trade, service, or material provided by the subcontractor. Abbreviated list of NIGP is available at <http://www.tampagov.net/DMI> "Information Resources".
- **Amount of Quote, Letters of Intent** (required for SLBEs).
- **Percent of Work/Contract.** Indicate the percentage of the total contract price the subcontract(s) represent. For CCNA only (i.e., Consultant A/E Services), you must indicate subcontracts as a percentage of the total scope/contract.
- **Total Subcontract/Supplier Utilization.** – Provide the total dollar amount of all subcontractors/suppliers projected to be used for the contract. (Dollar amounts may be optional in CCNA depending on solicitation format).

- **Total SLBE Utilization.** Provide the total dollar amount for all projected SLBE subcontractors/Suppliers used for this contract. (Dollar amounts may be optional in CCNA proposals depending on the solicitation format).
- **Percent SLBE Utilization.** Total amount allocated to SLBEs divided by the total bid/proposal amount.

If additional information is required or you have questions, please contact the Equal Business Opportunity Program - Office of Equal Business Opportunity at (813) 274-5522.

Tampa Construction Specifications
Contract 26-C-00029; Howard F. Curren AWTP Aquifer Recharge Wells Construction
TAMPA BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, _____

(hereinafter called the Principal) and _____

(hereinafter called the Surety) a Corporation chartered and existing under the laws of the State of _____, with its principal offices in the City of _____, and authorized to do business in the State of Florida, are held and firmly bound unto the City of Tampa, a Municipal Corporation of Hillsborough County, Florida, in the full and just sum of 5% of the amount of the (Bid) (Proposal) good and lawful money of the United States of America, to be paid upon demand of the City of Tampa, Florida, to which payment will and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally and firmly these presents.

WHEREAS, the Principal is about to submit, or has submitted to the City of Tampa, Florida, a Proposal for the construction of certain facilities for the City designated Contract 26-C-00029, Howard F. Curren AWTP Aquifer Recharge Wells Construction.

WHEREAS, the Principal desires to file this Bond in accordance with law, in lieu of a certified Bidder's check otherwise required to accompany this Proposal.

NOW, THEREFORE: The conditions of this obligation are such that if the Proposal be accepted, the Principal shall, within twenty (20) days after the date of receipt of written Notice of Award, execute a contract in accordance with the Proposal and upon the terms, conditions and price set forth therein, in the form and manner required by the City of Tampa, Florida and execute a sufficient and satisfactory Public Construction Bond payable to the City of Tampa, Florida in an amount of one hundred percent (100%) of the total contract price, in form and with security satisfactory to said City, then this Bid Bond obligation is to be void; otherwise to be and remain in full force and virtue in law, and the Surety shall, upon failure of the Principal to comply with any or all of the foregoing requirements within the time specified above, immediately pay to the aforesaid City, upon demand,

the amount thereof, in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

IN TESTIMONY THEREOF, the Principal and Surety have caused these presents to be duly signed and sealed this _____ day of _____, 20____.

Principal _____

BY _____

TITLE _____

BY _____

TITLE _____

SEAL)

Producing Agent

Producing Agent's Address

Name of Agency

The addition of such phrases as "not to exceed" or like import shall render the (Bid) (Proposal)non-responsive.

BB-1

AGREEMENT form

For furnishing all labor, materials and equipment, together with all work incidental thereto, necessary and required for the performance of the work for the construction of Contract 26-C-00029 in accordance with your Proposal dated _____, amounting to a total of \$_____ as completed in accordance with subsections I-2.09 and I-2.10 of the Instruction to Bidders.

This AGREEMENT, made and entered into in triplicate, between the City of Tampa, Florida, hereinafter called the City, and _____ hereinafter called the Contractor, as of the _____ day of _____, 20____ when the City Council of the City of Tampa, Florida adopted a Resolution authorizing, among other things, the Mayor's execution of this Agreement.

WITNESSETH that, in consideration of the mutual stipulations, agreements, and covenants herein contained, the parties hereto have agreed and hereby agree with each other, the Party of the First Part for itself, its successors and assigns, and the Party of the Second Part for itself, or himself, or themselves, and its successors and assigns, or his or their executors, administrators and assigns, as follows:

Contract 26-C-00029; Howard F. Curren AWTP Aquifer Recharge Wells Construction, shall include, but not be limited to, the construction of up to five (5) aquifer recharge wells (RW-1 through RW-5) and up to five (5) associated monitoring wells (MW-1 through MW-5) at the Howard F. Curren Advanced Wastewater Treatment Plant with all associated work required for a complete project in accordance with the Contract Documents.

Contract Documents referred to in Article 1.01 of this Agreement also includes this volume, applicable standard drawings, the plans and any provisions referred to whether actually attached or not.

TAMPA AGREEMENT

SECTION 1

GENERAL

ARTICLE 1.01 THE CONTRACT

Except for titles, subtitles, headings, running headlines, and tables of contents (all of which are printed herein merely for convenience), the following, except for such portions thereof as may be specifically excluded, constitute the Contract:

The Notice to Bidders;

The Instructions to Bidders, including Special Instructions and General Instructions;

The Proposal;

The Bid Bond;

The Certification of Nonsegregated Facilities;

The Notice of Award;

The Agreement;

The Public Construction Bond;

The Notice To Proceed;

The Specifications, including the General Provisions, the Workmanship and Materials, the Specific Provisions or the Contract Items

The Plans;

All Supplementary Drawings Issued after award of the Contract;

All Addenda issued by the City prior to the receipt of proposals;

All provisions required by law to be inserted in this Contract, whether actually inserted or not.

Tampa Construction Contract Boilerplate

ARTICLE 1.02 DEFINITIONS

The following words and terms, or pronouns used in their stead, shall, wherever they appear in this Contract, be construed as follows, unless different meaning is clear from the context:

(a)"City" shall mean the City of Tampa, Florida, represented by its Mayor and City Council, Party of the First Part, or such other City official as shall be duly empowered to act for the City on matters relating to this Contract.

(b)"Contractor" shall mean the Party of the Second Part hereto, whether corporation, firm or individual, or any combination thereof, and its, their, or his successors, personal representatives, executors, administrators, and assigns, and any person, firm or corporation who or which shall at any time be substituted in the place of the Party of the Second Part under this Contract.

(c)"Engineer" shall mean the Director of the Department or his duly authorized representative.

(d)"Consultant" shall mean the engineering or architectural firm or individual employed by the City to consult with and advise the City in the construction of the project.

(e)"Surety" shall mean any person, firm or corporation that has executed as Surety the Contractor's Performance Bond securing the performance of this Contract.

(f)"The Work" shall mean everything expressly or implied required to be furnished and done by the Contractor under the Contract, and shall include both Contract Work and Extra Work.

(g)"Contract Work" shall mean everything expressly or implied required to be furnished and done by the Contractor by any one or more of the Contract parts referred to in Article 1.01 hereof, except Extra Work, as hereinafter defined; it being understood that, in case of any inconsistency in or between any part or parts of this Contract, the Engineer shall determine which shall prevail.

(h)"Contract" or "Contract Documents" shall mean each of the various part of the Contract referred to in Article 1.01 hereof, both as a whole and severally.

(i)"Extra Work" shall mean work other than that required either expressly or implied by the contract in its present form.

(j)"Plans" shall mean only those drawings specifically referred to as such in these documents, or in any Addendum. Drawings issued after the execution of the Contract to explain further, or to illustrate, or to show changes in the work, will be known as "Supplementary Drawings" and shall be binding upon the Contractor with the same force as the Plans.

Tampa Construction Contract Boilerplate

(k)"Specifications" shall mean all of the directions, requirements, and standards of performance applying to the work, as hereinafter detailed and designated as such, or which may be issued in an addendum.

(l)"Addendum or Addenda" shall mean the additional contract provisions issued in writing prior to the receipt of bids.

(m)"Notice" shall mean written notice. Notice shall be served upon the Contractor, either personally or by leaving the said notice at his residence or with any employee found on the work, or addressed to the Contractor at the residence or place of business given in his proposal and deposited in a postpaid wrapper in any post office box regularly maintained by the United States Post Office.

(n)"Project" shall mean the entire improvement package or related work. The "project" may consist of several different, but related, contracts.

(o)"Site" shall mean, and be limited to, the area upon or in which the Contractor's operations are carried on and such other appropriate areas as may be designed as such by the Engineer.

(p)"Subcontractor" shall mean any person, firm, or corporation, other than employees of the Contractor, who or which contracts with the Contractor to furnish, or actually furnishes labor, or labor and materials, or labor and equipment or labor, materials, and equipment at the site.

(q)Whenever in the Contract the words "directed", "required", "permitted", "ordered", "designated", "prescribed", and words of like import are used, they shall imply the direction, requirement, permission, order, designation, or prescription of the Engineer; and "approved", "acceptable", "satisfactory", "in the judgement of", and words of like import shall mean approved by, or acceptable to, or satisfactory to, or in the judgment of the Engineer.

(r)Whenever in the Contract the word "day" is used, it shall mean calendar day.

(s)"Final Acceptance" shall mean acceptance of the work as evidenced by an official resolution of the City. Such acceptance shall be deemed to have taken place only if and when an approving resolution has been adopted by the City Council. The final acceptance shall be signed only after the City has assured itself by tests, inspection, or otherwise, that all of the provisions of the Contract have been carried out to its satisfaction.

(t)"Eastern Standard Time" shall be construed as the time being observed in the City on the day proposals are received or other documents issued or signed.

Tampa Construction Contract Boilerplate

SECTION 2

POWERS OF THE CITY'S REPRESENTATIVES

ARTICLE 2.01 THE ENGINEER

It is covenanted and agreed that the Engineer, in addition to those matters elsewhere herein expressly made subject to his determination, direction, or approval, shall have the power, subject to such express provisions and limitations herein contained as are not in conflict herewith, and subject to review by the Mayor and City Council:

(a) To monitor the performance of the work.

(b) To determine the amount, kind, quality, sequence, and location of the work to be paid for hereunder and, when completed, to measure such work for payment.

(c) To determine all questions of an engineering character in relation to the work, to interpret the Plans, Specifications and Addenda.

(d) To determine how the work of this Contract shall be coordinated with the work of other contractors engaged simultaneously on this project.

(e) To make minor changes in the work as he deems necessary, provided such changes do not result in a net increase in the cost to the City or to the Contractor of the work to be done under the Contract.

(f) To amplify the Plans, add explanatory information and furnish additional Specifications and Drawings consistent with the intent of the Contract Documents.

The power of the Engineer shall not be limited to the foregoing enumeration, for it is the intent of this Contract that all of the work shall be subject to his determinations and approval, except where the determination or approval of someone other than the Engineer is expressly called for herein and except as subject to review by the Mayor and City Council. All orders of the Engineer requiring the Contractor to perform work as Contract work shall be promptly obeyed by the Contractor.

The Engineer shall not, however, have the power to issue an extra work order, and the performance of such work on the order of the Engineer without previously obtaining written confirmation thereof from the Mayor in accordance with Article 7.02 hereof may constitute a waiver of any right to extra compensation therefor. The Contractor is warned that the Engineer has no power to change the terms and provisions of this Contract, except minor changes where such change results in no net increase in the Contract Price.

Tampa Construction Contract Boilerplate

ARTICLE 2.02 DIRECTOR

The Director of the Department in addition to those matters expressly made subject to his determination, direction or approval in his capacity as "Engineer", shall also have the power:

(a) To review any and all questions in relation to this Contract and its performance, except as herein otherwise specifically provided, and his determination upon such review shall be final and conclusive upon the Contractor.

(b) With the approval of the Mayor and City Council to authorize modifications or changes in the Contract so as to require: (1) the performance of extra work, or (2) the omission of Contract work whenever he deems it in the interest of the City to do so, or both.

(c) To suspend the whole or any part of the work whenever, in his judgment, such suspension is required: (1) in the interest of the City generally, or (2) to coordinate the work of the various Contractors engaged on this project, or (3) to expedite the completion of the entire project, even though the completion of this particular Contract may be thereby delayed, without compensation to the Contractor for such suspension other than extending the time for the completion of the work, as much as it may have been, in the opinion of the City, delayed by such a suspension.

(d) If, before the final acceptance of all the work contemplated herein, it shall be deemed necessary to take over, use, occupy, or operate any part of the completed or partly completed work, the Engineer shall have the right to do so and the Contractor will not, in any way, interfere with or object to the use, occupation, or operation of such work by the City after receipt of notice in writing from the Engineer that such work or part thereof will be used by the City on and after the date specified in such notice. Such taking over, use, occupancy or operation of any part of the completed or partially completed work shall not constitute final acceptance or approval of any such part of the work.

ARTICLE 2.03 NO ESTOPPEL

The City shall not, nor shall any department, officer, agent, or employee thereof, be bound, precluded, or estopped by any determination, decision, acceptance, return, certificate, or payment made or given under or in connection with this Contract by any officer, agent or employee of the City at any time either before or after final completion and acceptance of the work and payment therefor: (a) from showing the true and correct classification, amount, quality, or character of the work done, or that any determination, decision, acceptance, return certificate or payment is untrue, incorrect or improperly made in any particular, or that the work or any part thereof does not in fact conform to the requirements of the Contract Documents, and (b) from demanding and recovering from the Contractor any overpayments made to him or such damages as it may sustain by reason his failure to comply with

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the requirements of the Contract of Documents, or both.

ARTICLE 2.04 NO WAIVER OF RIGHTS

Neither the inspection, nor any order, measurements or certificate of the City or its employees, officers, or agents, nor by any order of the City for payment of money, nor any money, nor payments for or acceptance of the whole or any part of the work by the City, nor any extension of time, nor any changes in the Contract, Specifications or Plans, nor any possession by the City or its employees shall operate as a waiver of any provisions of this Contract, nor any power herein provided nor shall any waiver of any breach of this Contract be held as a waiver of any other subsequent breach.

Any remedy provided in this Contract shall be taken and construed as cumulative, namely, in addition to each and every other suit, action, or legal proceeding. The City shall be entitled as of right to an injunction against any breach of the provisions of this Contract.

SECTION 3

PERFORMANCE OF WORK

ARTICLE 3.01 CONTRACTOR'S RESPONSIBILITY

The Contractor shall do all the work and furnish, at his own cost and expense, all labor, materials, equipment, and other facilities, except as herein otherwise provided, as may be necessary and proper for performing and completing the work under this Contract. The Contractor shall be responsible for the entire work until completed and finally accepted by the City.

The work shall be performed in accordance with the true intent and meaning of the Contract Documents. Unless otherwise expressly provided, the work must be performed in accordance with the best modern practice, with materials as specified and workmanship of the highest quality, all as determined by and entirely to the satisfaction of the Engineer.

Unless otherwise expressly provided, the means and methods of construction shall be such as the Contractor may choose, subject, however, to the approval of the Engineer. Only adequate and safe procedure, methods, structures and equipment shall be used. The Engineer's approval or the Engineer's failure to exercise his right thereon shall not relieve the Contractor of obligations to accomplish the result intended by the Contract, nor shall such create a cause of action for damages.

ARTICLE 3.02 COMPLIANCE WITH LAWS

The Contractor must comply with all local, State and Federal laws, rules, ordinances and regulations applicable to this Contract and to the work done hereunder, and must obtain, at his own expense, all

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permits, licenses or other authorization necessary for the prosecution of the work.

No work shall be performed under this Contract on Sundays, legal holidays or after regular working hours without the express permission of the Engineer. Where such permission is granted, the Engineer may require that such work be performed without additional expense to the City.

ARTICLE 3.03 INSPECTION

During the progress of the work and up to the date of final acceptance, the Contractor shall, at all times, afford the representatives of the City, the Florida Department of Environmental Regulation, and if applicable, the Federal Environmental Protection Agency and the Federal Department of Labor every reasonable, safe and proper facility for inspecting the work done or being done at the site. The inspection of any work shall not relieve the Contractor of any of his obligations to perform proper and satisfactory work as herein specified. Finished or unfinished work found not to be in strict accordance with the Contract shall be replaced as directed by the Engineer, even though such work may have been previously approved and payment made therefor.

The City shall have the right to reject materials and workmanship which are defective or require their correction. Rejected work and materials must be promptly removed from the site, which must at all times be kept in a reasonably clean and neat condition.

Failure or neglect on the part of the City to condemn or reject bad or inferior work or materials shall not be construed to imply an acceptance of such work or materials, if it becomes evident at any time prior to the final acceptance of the work by the City. Neither shall it be construed as barring the City at any subsequent time from the recovery of damages of such a sum of money as may be needed to build anew all portions of the work in which inferior work or improper materials were used, wherever found.

Should it be considered necessary or advisable by the City at any time before final acceptance of the entire work to make examinations of work already completed, by removing or tearing out all or portions of such work, the Contractor shall, on request, promptly furnish all necessary facilities, labor, and material for that purpose. If such work is found to be defective in any material respect, due to the fault of the Contractor or his subcontractors, he shall defray all expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the cost of examination and restoration of the work shall be considered an item of extra work to be paid for in accordance with the provisions of Article 7.02 hereof.

ARTICLE 3.04 PROTECTION

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During performance and until final acceptance, the Contractor shall be under an absolute obligation to protect the finished and unfinished work against any damage, loss, or injury. The Contractor shall take proper precaution to protect the finished work from loss or damage, pending completion and the final acceptance of all the work included in the entire Contract, provided that such precaution shall not relieve the Contractor from any and all liability and responsibility for loss or damage to the work occurring before final acceptance by the City. Such loss or damage shall be at the risk of and borne by the Contractor, whether arising from acts or omissions of the Contractor or others. In the event of any such loss or damage, the Contractor shall forthwith repair, replace, and make good the work without extension of time therefor, except as may be otherwise provided herein.

The provisions of this Article shall not be deemed to create any new right of action in favor of third parties against the Contractor or the City.

ARTICLE 3.05 PRESERVATION OF PROPERTY

The Contractor shall preserve from damage all property along the line of the work, or which is in the vicinity of or is in anywise affected by the work, the removal or destruction of which is not called for by the Plans. This applies, but is not limited, to the public utilities, trees, lawn areas, building monuments, fences, pipe and underground structures, public streets (except natural wear and tear of streets resulting from legitimate use thereof by the Contractor), and wherever such property is damaged due to the activities of the Contractor, it shall be immediately restored to its original condition by the Contractor and at his own expense.

In case of failure on the part of the Contractor to restore such property, or make good such damage or injury, the City may, upon forty-eight (48) hour written notice, proceed to repair, rebuild, or otherwise restore such property as may be deemed necessary, and the cost thereof will be deducted from any monies due or which may become due the Contractor under this Contract. Nothing in this clause shall prevent the Contractor from receiving proper compensation for the removal, damage, or replacement of any public or private property not shown on the Plans, when this is made necessary by alteration of grade or alignment authorized by the Engineer, provided that such property has not been damaged through fault of the Contractor, his employees or agents.

ARTICLE 3.06 BOUNDARIES

The Contractor shall confine his equipment, apparatus, the storage of materials, supplies and apparatus of his workmen to the limits indicated on the plans, by law, ordinances, permits or direction of the Engineer.

ARTICLE 3.07 SAFETY AND HEALTH REGULATIONS

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The Contractor shall comply with the Department of Labor Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 (PL 91- 596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL91-54).

ARTICLE 3.08 TAXES

All taxes of any kind and character payable on account of the work done and materials furnished under this Contract shall be paid by the Contractor and shall be deemed to have been included in his bid. The laws of the State of Florida provide that sales and use taxes are payable by the Contractor upon the tangible personal property incorporated in the work and such taxes shall be paid by the Contractor and shall be deemed to have been included in his bid.

ARTICLE 3.09 ENVIRONMENTAL CONSIDERATIONS

The Contractor, in the performance of the work under this Contract, shall comply with all Local, State and Federal laws, statutes, ordinances, rules and regulations applicable to protection of the environment; and, in the event he violates any of the provisions of same, he shall be answerable to the Local, State and Federal agencies designated by law to protect the environment. In the event the City receives, from any of the environmental agencies, a citation which is occasioned by an act or omission of the Contractor or his subcontractor or any officers, employees or agents of either, it is understood and agreed that the Contractor shall automatically become a party-respondent under said citation; and the City immediately shall notify the Contractor and provide him with a copy of said citation.

The Contractor shall comply with the requirements of the citation and correct the offending condition(s) within the time stated in said citation and further shall be held fully responsible for all fines and/or penalties.

SECTION 4

TIME PROVISIONS

ARTICLE 4.01 TIME OF START AND COMPLETION

The Contractor must commence work within thirty (30) days subsequent to the date of the receipt of the "Notice to Proceed" by the City unless otherwise provided in the Specific Provisions and Special Instructions. Time being of the essence of this Contract, the Contractor shall thereafter prosecute the work diligently, using such means and methods of construction as well as secure its full completion in accordance with the requirements of the Contract Documents no later than the date specified therefor, or on the date to which the time for completion may be extended.

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The Contractor must complete the work covered by this Contract in the number of consecutive calendar days set forth in the Instructions to Bidders, unless the date of completion is extended pursuant to the provisions of Article 4.05 hereof. The period for performance shall start from the date of signing of this Agreement by the City.

The actual date of completion will be established after a final inspection as provided in Article 4.07 hereof.

ARTICLE 4.02 PROGRESS SCHEDULE

To enable the work to be laid out and prosecuted in an orderly and expeditious manner, the Contractor shall submit to the Engineer a proposed progress schedule within fifteen (15) days after the award of this Contract.

The schedule shall state the Contract starting date, time for completion and date of completion and shall show the anticipated time of starting and completion of each of the various operations to be performed under this Contract, together with all necessary and appropriate information regarding sequence and correlation of work and an estimated time required for the delivery of all materials and equipment required for the work. The proposed schedule shall be revised as directed by the Engineer until finally approved by him, and, after such approval, shall be strictly adhered to by the Contractor. The approved progress schedule may be changed only with the written permission of the Engineer.

If the Contractor shall fail to adhere to the approved progress schedule or the schedule as revised, he shall promptly adopt such other or additional means and methods of construction as will make up for the time lost, and will assure completion in accordance with the contract time.

ARTICLE 4.03 APPROVAL REQUESTS

From time to time, as the work progresses and in the sequence indicated by the approved schedule, the Contractor must submit to the Engineer a specific request, in writing, for each item of information or approval required of him by the Contract. These requests must be submitted sufficiently in advance of the date upon which the information or approval is actually required by the Contractor to allow for the time the Engineer may take to act upon such submissions or resubmissions. The Contractor shall not have any right to an extension of time on account of delays due to his failure to submit his requests for the required information or the required approval in accordance with these requirements.

ARTICLE 4.04 COORDINATION WITH OTHER CONTRACTORS

During progress of the work, other Contractors may be engaged in performing other work on this project or on other projects on the site. In that event, the Contractor shall coordinate the work to be

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done hereunder with the work of such other Contractors in such manner as the Engineer may direct.

ARTICLE 4.05 EXTENSION OF TIME

If such an application is made, the Contractor shall be entitled to an extension of time for delay in completion of the work should the Contractor be obstructed or delayed in the commencement, prosecution or completion of any part of said work by any act or delay of the City, or by acts or omissions of other Contractors on this project, or by a riot, insurrection, war, pestilence, acts of public authorities, fire, lightning, hurricanes, earthquakes, tornadoes, floods, extremely abnormal and excessive inclement weather as indicated by the records of the local weather bureau for a five-year period preceding the date of the Contract, or by strikes, or other causes, which causes of delay mentioned in this Article, in the opinion of the City, are entirely beyond the expectation and control of the Contractor.

The Contractor shall, however, be entitled to an extension of time for such causes only for the number of days of delay which the City may determine to be due solely to such causes and only to the extent that such occurrences actually delay the completion of the project and then only if the Contractor shall have strictly complied with all of the requirements of Articles 4.01, 4.02, 4.03 and 4.04 hereof. It is hereby understood that the determination by the Engineer as to the order and sequence of the work shall not in itself constitute a basis for extension of time.

The determination made by the City on an application for an extension of time shall be binding and conclusive on the Contractor.

Delays caused by failure of the Contractor's materialmen, manufacturers, and dealers to furnish approved working drawings, materials, fixtures, equipment, appliances, or other fittings on time or failure of subcontractors to perform their work shall not constitute a basis of extension of time.

The Contractor agrees to make no claim for damages for delay in the performance of this Contract occasioned by any act or omission to act of the City or any of its representatives or because of any injunction which may be brought against the City or its representatives and agrees that any such claim shall be fully compensated for by an extension of time to complete performance of the work as provided herein.

ARTICLE 4.06 LIQUIDATED DAMAGES

It is mutually agreed between the parties that time is the essence of this Contract and that there will be on the part of the City considerable monetary damage in the event the Contractor should fail to complete the work within the time fixed for completion in the Contract or within the time to which such completion may have been extended.

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The amount per day set forth in the Instructions to Bidders is hereby agreed upon as the liquidated damages for each and every calendar day that the time consumed in completing the work under this Contract exceeds the time allowed.

This amount shall, in no event, be considered as a penalty or otherwise than as the liquidated and adjusted damages to the City because of the delay and the Contractor and his Surety agree that the stated sum per day for each such day of delay shall be deducted and retained out of the monies which may become due hereunder and if not so deductible, the Contractor and his Surety shall be liable therefor.

ARTICLE 4.07 FINAL INSPECTION

When the work has been completed in accordance with the requirements of the Contract and final cleaning up performed, a date for final inspection of the work by the Engineer shall be set by the Contractor in a written request therefor, which date shall be not less than ten (10) days after the date of such request. The work will be deemed complete as of the date so set by the Contractor if, upon such inspection, the Engineer determines that no further work remains to be done at the site.

If such inspection reveals items of work still to be performed, however, the Contractor shall promptly perform them and then request a reinspection. If, upon such inspection, the Engineer determines that the work is complete, the date of final completion shall be deemed to be the last day of such reinspection.

SECTION 5

SUBCONTRACTS AND ASSIGNMENTS

ARTICLE 5.01 LIMITATIONS AND CONSENT

The Contractor shall not assign, transfer, convey, sublet or otherwise dispose of this Contract or of his right, title, or interest therein, or his power to execute such Contract, or to assign any monies due or to become due thereunder to any other person, firm or corporation unless the previous written consent of the City shall first be obtained thereto and the giving of any such consent to a particular subcontract or assignment shall not dispense with the necessity of such consent to any further or other assignment.

Before making any subcontract, the Contractor must submit a written statement to the Engineer, giving the name and address of the proposed contractor, the portion of the work and materials which he is to perform and furnish and any other information tending to prove that the proposed subcontractor has the necessary facilities, skill, integrity, past experience and financial resources to perform the work in accordance with the terms and conditions of this Contract.

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If the City finds that the proposed subcontractor is qualified, the Contractor will be notified in writing. The City may revoke approval of any subcontractor when such subcontractor evidences an unwillingness or inability to perform his work in strict accordance with these Contract Documents. Notice of such revocation of approval will be given in writing to the Contractor.

The Contractor will promptly, upon request, file with the City a conformed copy of the subcontract. The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of these Contract Documents, insofar as applicable to the work of subcontractors, and to give the Contractor the same power as regards terminating any subcontracts that the City may exercise over the Contractor under provisions of these Contract Documents.

The Contractor shall be required to perform with his own forces at least twenty-five (25) percent of the work, unless written consent to subcontract a greater percentage of the work is first obtained from the City.

ARTICLE 5.02 RESPONSIBILITY

The approval by the City of a subcontractor shall not relieve the Contractor of any of his responsibilities, duties, and liabilities hereunder. The Contractor shall be solely responsible to the City for the acts or defaults or omissions of his subcontractor and of such subcontractor's officers, agents, and employees, each of whom shall for all purposes be deemed to be the agent or employee of the Contractor. Nothing contained in the Contract Documents shall create any contractual relationship between any subcontractor and the City.

SECTION 6

SECURITY AND GUARANTY

ARTICLE 6.01 CONTRACT SECURITY

The Contractor shall execute and deliver to the City a Performance Bond on the form as provided herein, in an amount at least equal to one hundred (100) percent of the full Contract price, such Bond to be executed by a surety company acceptable to the City. The surety on such Performance Bond shall be a surety company duly authorized to do business in the State of Florida, and the Bond shall be issued or countersigned by a local resident producing agent of such surety company who is a resident of the State of Florida, regularly commissioned and licensed in said State, and satisfactory evidence of the authority of the person or persons executing such Bond shall be submitted with the Bond. The Performance Bond shall serve as security for the faithful performance of this Contract, including maintenance and guaranty provisions, and for the payment of all persons performing labor and

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furnishing materials in connection with the Contract. The premiums on the Performance Bond shall be paid by the Contractor.

If, at any time, the City shall become dissatisfied with any surety or sureties then upon the Performance Bond, or if for any other reason such bond shall cease to be adequate security for the City, the Contractor shall, within five days after notice so to do, substitute an acceptable Bond in such form and sum and signed by such other sureties as may be satisfactory to the City. The premiums on such Bond shall be paid by the Contractor. No further partial payments shall be deemed due or shall be made until the new sureties have qualified.

ARTICLE 6.02 CONTRACTORS INSURANCE

Insurance required shall be as indicated on Special Instructions pages beginning with "INS-1"

ARTICLE 6.03 AGAINST CLAIMS AND LIENS

The City may withhold from the Contractor as much as any approved payments to him as may, in the opinion of the City, be necessary to secure (a) just claims of any persons supplying labor or materials to the Contractor or any of his subcontractors for the work then due and unpaid; (b) loss due to defective work not remedied, or (c) liability, damage, or loss due to injury to persons or damages to the work or property of other contractors, subcontractors, or others, caused by the act or neglect of the Contractor or of any of his subcontractors. The City shall have the right, as agent for the Contractor, to apply any such amounts so withheld in such manner as the City may deem proper to satisfy such claims or to secure such protection. Such application of such money shall be deemed payments for the account of the Contractor.

ARTICLE 6.04 MAINTENANCE AND GUARANTY

The Contractor hereby guarantees all the work furnished under this Contract against any defects in workmanship and materials for a period of one year following the date of final acceptance of the work by the City. Under this guarantee, the Contractor hereby agrees to make good, without delay, at his own expense, any failure of any part of the work due to faulty materials or manufacture, construction, or installation, or the failure of any equipment to perform satisfactorily all the work put upon it within the limits of the Contract Documents, and further, shall make good any damage to any part of the work caused by such failure. It is hereby agreed that the Performance Bond shall fully cover all guarantees contained in this Article.

It is also agreed that all warranties, expressed or implied, inure to the benefit of the City and are enforceable by the City.

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SECTION 7

CHANGES

ARTICLE 7.01 MINOR CHANGES

The City reserves the right to make such additions, deductions, or changes to this Contract from time to time as it deems necessary and in a manner not materially affecting the substance thereof or materially changing the price to be paid in order to carry out and complete more fully and perfectly the work herein agreed to be done and performed. This Contract shall in no way be invalidated by any such additions, deductions, or changes, and no claim by the Contractor shall be made for any loss of anticipated profits thereby.

Construction conditions may require that minor changes be made in the location and installation of the work and equipment to be furnished and other work to be performed hereunder, and the Contractor when ordered by the Engineer, shall make such adjustments and changes in said locations and work as may be necessary, without additional cost to the City, provided such adjustments and changes do not alter the character, quantity or cost of the work as a whole, and provided further that Plans and Specifications showing such adjustments and changes are furnished to the Contractor by the City within a reasonable time before any work involving such adjustment and changes is begun. The Engineer shall be the sole judge of what constitutes a minor change for which no additional compensation shall be allowed.

ARTICLE 7.02 EXTRA WORK

The City may at any time by a written order and without notice to the sureties require the performance of such extra work as it may find necessary or desirable. An order for extra work shall be valid only if issued in writing and signed by the Mayor and the work so ordered must be performed by the Contractor.

The amount of compensation to be paid to the Contractor for any extra work as so ordered shall be determined as follows:

(a) By such applicable unit prices, if any, as are set forth in the Proposal; or

(b) If no such unit prices are set forth then by a lump sum or other unit prices mutually agreed upon by the City and the Contractor; or

(c) If no such unit prices are set forth in the Proposal and if the parties cannot agree upon a lump sum or other unit prices then by the actual net cost in money to the Contractor of the extra work

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performed, which cost shall be determined as follows:

(1) For all labor and foreman in direct charge of the authorized operations, the Contractor shall receive the current local rate of wages to be agreed upon, in writing, before starting such work for each hour that said labor and foremen are actually engaged thereon, to which shall be added an amount equal to 25 percent of the sum thereof which shall be considered and accepted as full compensation for general supervision, FICA taxes, contributions under the Florida Unemployment Compensation Act, insurance, bond, subcontractor's profit and overhead, the furnishing of small tools and miscellaneous equipment used, such as picks, shovels, hand pumps, and similar items.

(2) For all materials used, the Contractor shall receive the actual cost of such materials delivered at the site or previously approved delivery point as established by original receipted bills. No percentage shall be added to this cost.

(3) For special equipment and machinery such as power-driven pumps, concrete mixers, trucks, and tractors, or other equipment, required for the economical performance of the authorized work, the Contractor shall receive payment based on the average local area rental price for each item of equipment and the actual time of its use on the work. No percentage shall be added to this sum.

(4) Records of extra work done under this procedure shall be reviewed at the end of each day by the Contractor or his representative and the Engineer. Duplicate copies of accepted records shall be made and signed by both Contractor or his representative and the Engineer, and one copy retained by each.

Request for payment for approved and duly authorized extra work shall be submitted in the same form as Contract work or in the case of work performed under paragraph (c) (1) above upon a certified statement supported by receipted bills. Such statement shall be submitted for the current Contract payment for the month in which the work was done.

ARTICLE 7.03 DISPUTED WORK

If the Contractor is of the opinion that any work required, necessitated, or ordered violates the terms and provisions of this Contract, he must promptly notify the Engineer, in writing, of his contentions with respect thereto and request a final determination thereof. If the Engineer determines that the work in question is Contract work and not extra work or that the order complained of is proper, he will direct the Contractor to proceed and the Contractor shall promptly comply. In order, however, to reserve his right to claim compensation for such work or damages resulting from such compliance, the Contractor must, within five (5) days after receiving notice of the Engineer's determination and direction, notify the

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City in writing that the work is being performed or that the determination and direction is being complied with under protest. Failure of the Contractor to notify shall be deemed as a waiver of claim for extra compensation or damages therefor.

Before final acceptance by the City, all matters of dispute must be adjusted to the mutual satisfaction of the parties thereto. Final determinations and decisions, in case any questions shall arise, shall constitute a condition precedent to the right of the Contractor to receive the money therefor until the matter in question has been adjusted.

ARTICLE 7.04 OMITTED WORK

The City may at any time by a written order and without notice to the sureties require the omission of such Contract work as it may find necessary or desirable.

An order for omission of work shall be valid only if signed by the Mayor and the work so ordered must be omitted by the Contractor. The amount by which the Contract price shall be reduced shall be determined as follows:

- (a) By such applicable unit prices, if any, as are set forth in the Contract; or
- (b) By the appropriate lump sum price set forth in the Contract; or
- (c) By the fair and reasonable estimated cost to the City of such omitted work as determined by the Engineer and approved by the City.

SECTION 8

CONTRACTOR'S EMPLOYEES

ARTICLE 8.01 CHARACTER AND COMPETENCY

The Contractor and his subcontractors shall employ upon all parts of the work herein contracted for only competent, skillful, and trustworthy workers. Should the Engineer at any time give notice, in writing, to the Contractor or his duly authorized representative on the work that any employee in his opinion is incompetent, unfaithful, disorderly, careless, unobservant of instructions, or in any way a detriment to the satisfactory progress of the work, such employee shall immediately be dismissed and not again allowed upon the site.

ARTICLE 8.02 SUPERINTENDENCE

The Contractor shall give his personal supervision to the faithful prosecution of the work and in case of

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his absence shall have a competent, experienced, and reliable supervisor or superintendent, acceptable to the Engineer on the site who shall follow without delay all instructions of the Engineer in the prosecution and completion of the work and every part thereof, in full authority to supply workers, material, and equipment immediately. He shall keep on hand at all times copies of the Contract Documents.

ARTICLE 8.03 EMPLOYMENT OPPORTUNITIES

The Contractor shall, in the performance of the work required to be done under this Contract, employ all workers without discrimination regarding race, creed, color, sex or national origin and must not maintain or provide facilities that are segregated on the basis of race, color, creed or national origin.

ARTICLE 8.04 RATES OF WAGES

On federally assisted projects, the rates of wages to be paid under this Contract shall not be less than the rates of wages set forth in Section 12 of this Agreement.

On other projects, no wage rate determination is included. Florida's Prevailing Wage Law (Section 215.19, Florida Statutes) was repealed effective April 25, 1979.

ARTICLE 8.05 PAYROLL REPORTS

The Contractor and each subcontractor shall, if requested to do so, furnish to the Engineer a duly certified copy of his payroll and also any other information required by the Engineer to satisfy him that the provisions of the law as to the hours of employment and rate of wages are being observed.

Payrolls shall be prepared in accordance with instructions furnished by the City and on approved forms. The Contractor shall not carry on his payroll any persons not employed by him. Subcontractor's employees shall be carried only on the payrolls of the employing subcontractor.

SECTION 9

CONTRACTOR'S DEFAULT

ARTICLE 9.01 CITY'S RIGHT AND NOTICE

It is mutually agreed that: (a) if the Contractor fails to begin work when required to do so, or (b) if at any time during the progress of the work it shall appear to the Engineer that the Contractor is not prosecuting the work with reasonable speed, or is delaying the work unreasonably and unnecessarily, or (c) if the force of workmen or quality or quantity of material furnished are not sufficient to insure completion of the work within the specified time and in accordance with the Specifications hereto

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attached, or (d) if the Contractor shall fail to make prompt payments for materials or labor or to subcontractors for work performed under the Contract, or (e) if legal proceedings have been instituted by others than the City in such manner as to interfere with the progress of the work and may subject the City to peril of litigation or outside claims of (f) if the Contractor shall be adjudged a bankrupt or make an assignment for the benefit of creditors, or (g) if in any proceeding instituted by or against the Contractor an order shall be made or entered granting an extension of time of payment, composition, adjustment, modification, settlement or satisfaction of his debts or liabilities, or (h) if a receiver or trustee shall be appointed for the Contractor or the Contractor's property, or (i) if the Contract or any part thereof shall be sublet without the consent of the City being first obtained in writing, or (j) if this Contract or any right, monies, or claim thereunder shall be assigned by the Contractor, otherwise than as herein specified, or (k) if the Contractor shall fail in any manner of substance to observe the provisions of this Contract, or (l) if any of the work, machinery, or equipment shall be defective, and shall not be replaced as herein provided, or (m) if the work to be done under this Contract shall be abandoned, then such fact or conditions shall be certified by the Engineer and thereupon the City without prejudice to any other rights or remedies of the City, shall have the right to declare the Contractor in default and so notify the Contractor by a written notice, setting forth the ground or grounds upon which such default is declared and the Contractor must discontinue the work, either as a portion of the work or the whole thereof, as directed.

ARTICLE 9.02 CONTRACTOR'S DUTY UPON DEFAULT

Upon receipt of notice that his Contract is in default, the Contractor shall immediately discontinue all further operations on the work or such part thereof, and shall immediately quit the site or such part thereof, leaving untouched all plant, materials, equipment, tools, and supplies.

ARTICLE 9.03 COMPLETION OF DEFAULTED WORK

The City, after declaring the Contractor in default, may then have the work completed or the defective equipment or machinery replaced or anything else done to complete the work in strict accordance with the Contract Documents by such means and in such manner, by Contract with or without public letting, or otherwise, as it may deem advisable, utilizing for such purpose without additional cost to the City such of the Contractor's plant, materials, equipment, tools, and supplies remaining on the site, and also such subcontractors as it may deem advisable.

The City shall reimburse all parties, including itself, for the expense of such completion, including liquidated damages, if any, and the cost of reletting. The City shall deduct this expense from monies due or to become due to the Contractor under this Contract, or any part thereof, and in case such expense is more than the sum remaining unpaid of the original contract price, the Contractor and his sureties shall pay the amount of such deficiency to the City.

ARTICLE 9.04 PARTIAL DEFAULT

In case the City shall declare the Contractor in default as to a part of the work only, the Contractor shall discontinue such part, shall continue performing the remainder of the work in strict conformity with the terms of the Contract, and shall in no way hinder or interfere with any other contractor or person whom the City may engage to complete the work as to which the Contractor was declared in default.

SECTION 10

PAYMENTS

ARTICLE 10.01 PRICES

For the Contractor's complete performance of the work, the City will pay and the Contractor agrees to accept, subject to the terms and conditions hereof, the lump sum prices or unit prices in the Contractor's Proposal and the award made therein, plus the amount required to be paid for any extra work ordered under Article 7.02 hereof, less credit for any work omitted pursuant to Article 7.04 hereof. Under unit price items, the number of units actually required to complete the work under the Contract may be more than stated in the Proposal. The Contractor agrees that no claim will be made for any damages or for loss of profits because of a difference between the quantities of the various classes of work assumed and stated in the Proposal Form as a basis for comparing Proposals and the quantities of work actually performed.

The sum as awarded for any lump sum Contract or lump sum Contract Item shall represent payment in full for all of the various classes of work, including materials, equipment, and labor necessary or required to complete, in conformity with the Contract Document, the entire work shown, indicated or specified under the lump sum Contract or lump sum Contract Item.

The amount as awarded as a unit price for any unit price Contract Item shall represent payment in full for all the materials, equipment, and labor necessary to complete, in conformity with the Contract Documents, each unit of work shown, specified, or required under the said unit price Contract Item.

No payment other than the amount as awarded will be made for any class of work included in a lump sum Contract Item or a unit price Contract Item, unless specific provision is made therefor in the Contract Documents.

ARTICLE 10.02 SUBMISSION OF BID BREAKDOWN

Within fifteen (15) days after the execution of this Contract, the Contractor must submit to the

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Engineer in duplicate an acceptable breakdown of the lump sums and unit prices bid for items of the Contract, showing the various operations to be performed under the Contract, as described in the progress schedule required under Article 4.02 hereof, and the value of each of such operations, the total of such items to equal the total price bid. The Contractor shall also submit such other information relating to the bid prices as may be required and shall revise the bid breakdown as directed. Thereafter, the breakdown may be used for checking the Contractor's applications for partial payments hereunder but shall not be binding upon the City or the Engineer for any purpose whatsoever.

ARTICLE 10.03 REPORTS, RECORDS AND DATA

The Contractor shall furnish to the Engineer such schedules of quantities and costs, progress schedules, reports, invoices, delivery tickets, estimates, records, and other data as the Engineer may request concerning work performed or to be performed and the materials furnished under the Contract.

ARTICLE 10.04 PAYMENTS BY CONTRACTOR

The Contractor shall pay (a) for all transportation and utility services not later than the 20th day of the calendar month following that in which such services are rendered, (b) for all materials, tools, and equipment delivered at the site of the project, and the balance of the cost thereof not later than the 30th day following the completion of that part of the work in or on which such materials, tools, and equipment are incorporated or used, and (c) to each of his subcontractors, not later than the 5th day following each payment to the Contractor, the respective amounts allowed the Contractor on account of the work performed by his subcontractors, to the extent of each subcontractor's interest therein; and proof of such payments or releases therefor shall be submitted to the Engineer upon request.

ARTICLE 10.05 PARTIAL PAYMENTS

On or about the first of each month, the Contractor shall make and certify an estimate, on forms prescribed by the City, of the amount and fair value of the work done, and may apply for partial payment therefor. The Contractor shall revise the estimate as the Engineer may direct. When satisfactory progress has been made, and shows that the value of the work completed since the last payment exceeds one percent (1%) of the total Contract price in amount, the Engineer will issue a certificate that such work has been completed and the value thereof. The City will then issue a voucher to the Contractor in accordance with the following schedule:

FOR CONTRACT AMOUNTS UNDER \$250,000

(A) In the amount of ninety percent (90%) of the value of the work completed as certified until construction is one hundred percent (100%) complete (operational or beneficial occupancy), the withheld amount may be reduced below ten percent (10%), at the Engineer's option, to only that

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amount necessary to assure completion.

FOR CONTRACT AMOUNTS OVER \$250,000

(A) In the amount of ninety percent (90%) of the value of the work completed as certified until construction is fifty percent (50%) complete.

(B) When the dollar value, as determined by the Engineer, of satisfactorily completed work in place is greater than fifty percent (50%) of the original contract price, vouchers for partial payment will be issued by the City to the Contractor in the amount of one hundred percent (100%) of the value of the work, above 50%, completed as certified for that payment period.

(C) If the Contractor has performed satisfactorily and the work is substantially complete (operational or beneficial occupancy) the withheld amount may be reduced, at the Engineer's option, to only that amount necessary to assure completion.

In addition to the Conditions set forth in (A), (B), and (C) above, payments will always be less any sums that may be retained or deducted by the City under the terms of any of the contract documents and less any sums that may be retained to cover monetary guarantees for equipment, materials or progress performance.

Payment on estimates made on or about the first of the month may be expected on or about the 20th of the month.

Unless specified otherwise in the Contract Items, the delivered cost of equipment and nonperishable materials suitably stored at the site of the work and tested for adequacy may be included in the Contractor's application for partial payment provided, however, that the Contractor shall furnish evidence satisfactory to the City that the Contractor is the unconditional owner and in possession of such materials or equipment. The amount to be paid will be 90 percent of the invoice cost to the Contractor which cost shall be supported by receipted bills within 30 days of the date of payment by the City to the Contractor. Such payment shall not relieve the Contractor from full responsibility for completion of the work and for protection of such materials and equipment until incorporated in the work in a permanent manner as required by the Contract Documents.

Before any payment will be made under this Contract, the Contractor and every subcontractor, if required, shall deliver to the Engineer a written, verified statement, in satisfactory form, showing in detail all amounts then due and unpaid by such Contractor or subcontractor to all laborers, workmen, and mechanics, employed by him under the Contract for the performance of the work at the site thereof, for daily or weekly wages, or to other persons for materials, equipment, or supplies delivered at the site of the work during the period covered by the payment under consideration.

ARTICLE 10.06 FINAL PAYMENT

Under determination of satisfactory completion of the work under this Contract as provided in Article 4.07 hereof, the Engineer will prepare the final estimate showing the value of the completed work. This estimate will be prepared within 30 days after the date of completion or as soon thereafter as the necessary measurements and computations can be made. All prior certificates and estimates, being approximate only, are subject to correction in the final estimate and payment.

When the final estimate has been prepared and certified by Engineer, he will submit to the Mayor and City Council the final certificate stating that the work has been completed and the amount based on the final estimate remaining due to the Contractor. The City will then accept the work as fully completed and will, not later than 30 days after the final acceptance, as defined in Article 1.02, of the work done under this Contract, pay the Contractor the entire amount so found due thereunder after deduction of all previous payments and all percentages and amounts to be kept and retained under provisions of this Contract; provided, however, and it is understood and agreed that, as a precedent to receiving final payment, the Contractor shall submit to the City a sworn affidavit that all bills for labor, service, materials, and subcontractors have been paid and that there are no suits pending in connection with this work. The City, at its option, may permit the Contractor to execute a separate surety bond in a form satisfactory to the City. The surety bond shall be in the full amount of the suit or suits.

Neither the final payment nor any part of the retained percentage shall be paid until the Contractor, if required, shall furnish the City with a complete release from any should remain unsatisfied after all payments are made, the Contractor shall refund to the City all monies which the City may be compelled to pay in discharging such claim, including incidental costs and attorney's fees.

ARTICLE 10.07 ACCEPTANCE OF FINAL PAYMENT

The acceptance by the Contractor, or by anyone claiming by or through him, of the final payment shall operate as and shall be a release to the City and every officer and agent thereof from any and all claims and liability to the Contractor for anything done or furnished in connection with the work or project and for any act or neglect of the Contractor or of any others relating to or affecting the work. No payment, however, final or otherwise, shall operate to release the Contractor or his sureties from any obligations under this Contract or the Performance Bond.

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SECTION 11

MISCELLANEOUS PROVISIONS

ARTICLE 11.01 CONTRACTOR'S WARRANTIES

In consideration of, and to induce the award of this contract to him, the Contractor represents and warrants:

(a) That he is not in arrears to the City upon debt or contract, and he is not a defaulter, as surety, contractor, or otherwise.

(b) That he is financially solvent and sufficiently experienced and competent to perform the work.

(c) That the work can be performed as called for by the Contract Documents.

(d) That the facts stated in his proposal and the information given by him are true and correct in all respects.

(e) That he is fully informed regarding all the conditions affecting the work to be done and labor and materials to be furnished for the completion of this Contract, and that his information was secured by personal investigation and research.

ARTICLE 11.02 PATENTED DEVICES, MATERIAL AND PROCESSES

It is mutually understood and agreed that Contract prices include all royalties and costs arising from patents, trademarks, and copyrights in any way involved in the work. Whenever the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the Contractor shall indemnify and save harmless the City, its officers, agents and employees from any and all claims for infringement by reason of the use of any such patented design, device, tool, material, equipment, or process, to be performed under the Contract, and shall indemnify the said City, its officers, agents, and employees for any costs, expenses, and damages which may be incurred by reason of such infringement at any time during the prosecution or after completion of the work.

ARTICLE 11.03 SUITS AT LAW

In case any action at law or suit in equity may or shall be brought against the City or any of its officers, agents, or employees for or on account of the failure, omission, or neglect of the Contractor or his subcontractors, employees, or agents, to do or perform any of the covenants, acts, matters, or things by this Contract undertaken to be done or performed by the Contractor or his subcontractors, employees, or agents, or from any injuries done to property or persons and caused by the negligence or

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alleged negligence of the Contractor of his subcontractors, employees, or agents, or in any other manner arising out of the performance of this Contract, then the Contractor shall immediately assume and take charge of the defense of such actions or suits in like manner and to all intents and purposes as if said actions or suits have been brought directly against the Contractor, and the Contractor shall also indemnify and save harmless the City, its officers, agents, and employees from any and all loss, cost or damage whatever arising out of such actions or suits, in like manner and to all intents and purposes as if said actions or suits have been brought directly against the Contractor.

The Contractor shall and does hereby assume all liability for and agrees to indemnify the City or its Engineer against any or all loss, costs, damages, and liability for any or by reason of any lien, claims or demands, either for materials purchased or for work performed by laborers, mechanics, and others and from any damages, costs, actions, or causes of action and judgement arising from injuries sustained by mechanics, laborers, or other persons by reason of accidents or otherwise, whether caused by the carelessness or inefficiency or neglect of said Contractor, his subcontractors, agents, employees, workmen or otherwise.

ARTICLE 11.04 CLAIMS FOR DAMAGES

If the Contractor shall claim compensation for any damage sustained, other than for extra or disputed work covered by Article 7.02 and 7.03 hereof, by reason of any act or omission of the City, its agents, or any persons, he shall, within five days after sustaining such damage, make and deliver to the Engineer a written statement of the nature of the damage sustained and of the basis of the claim against the City. On or before the 15th of the month succeeding that in which any damage shall have been sustained, the Contractor shall make and deliver to the Engineer an itemized statement of the details and amounts of such damage, duly verified by the Contractor. Unless such statements shall be made delivered within the times aforesaid, it is stipulated that and all claims for such compensation shall be forfeited and invalidated, and the Contractor shall not be entitled to payment on account of such claims.

ARTICLE 11.05 NO CLAIMS AGAINST INDIVIDUALS

No claim whatsoever shall be made by the Contractor against any officer, agent, employee of the City for, or on account of, anything done or omitted to be done in connection with this Contract.

ARTICLE 11.06 LIABILITY UNAFFECTED

Nothing herein contained shall in any manner create any liability against the City on behalf of any claim for labor, services, or materials, or of subcontractors, and nothing herein contained shall affect the liability of the Contractor or his sureties to the City or to any workmen or materialsmen upon bond

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given in connection with this Contract.

ARTICLE 11.07 INDEMNIFICATION PROVISIONS

Whenever there appears in this Agreement, or in the other Contract Documents made a part hereof, an indemnification provision within the purview of Chapter 725.06, Laws of Florida, the monetary limitation on the extent of the indemnification under each such provision shall be One Million Dollars or a sum equal to the total Contract price, whichever shall be the greater.

ARTICLE 11.08 UNLAWFUL PROVISIONS DEEMED STRICKEN

If this contract contains any unlawful provisions not an essential part of the Contract and which shall not appear to have a controlling or material inducement to the making thereof, such provisions shall be deemed of no effect and shall, upon notice by either party, be deemed stricken from the Contract without affecting the binding force of the remainder.

ARTICLE 11.09 LEGAL PROVISIONS DEEMED INCLUDED

Each and every provision of any law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein, and the Contract shall be read and enforced as though it were included herein and if, through mistake or otherwise, any such provision is not inserted or is not correctly inserted, then upon application of either party the Contract shall forthwith be physically amended to make such insertion.

ARTICLE 11.10 DEATH OR INCOMPETENCY OF CONTRACTOR

In the event of death or legal incompetency of a Contractor who shall be an individual or surviving member of a contracting firm, such death or adjudication of incompetency shall not terminate the Contract, but shall act as default hereunder to the effect provided in Article 9.01 hereof and the estate of the Contractor and his surety shall remain liable hereunder to the same extent as though the Contractor had lived. Notice of default, as provided in Article 9.01 hereof, shall not be required to be given in the event of such death or adjudication of incompetency.

ARTICLE 11.11 NUMBER AND GENDER OF WORDS

Whenever the context so admits or requires, all references herein in one number shall be deemed extended to and including the other number, whether singular or plural, and the use of any gender shall be applicable to all genders.

ARTICLE 11.12 ACCESS TO RECORDS

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Representatives of Federal Agencies, if applicable, and the State of Florida shall have access to the work whenever it is in preparation of progress. On federally assisted projects the Federal Agency, the Comptroller General of the United States, or any authorized representative shall have access to any books, documents, papers, and records of the Contractor which are pertinent to the project for the purpose of making audit, examination, excerpts, and transcription thereof.

SECTION 12

LABOR STANDARDS

ARTICLE 12.01 LABOR STANDARDS

The Contractor shall comply with all applicable the regulations set forth in "Labor Standards Provisions for Federally Assisted Construction Contracts", which may be attached, and any applicable Florida Statutes.

ARTICLE 12.02 NOTICE TO LABOR UNIONS

If required, the Contractor shall provide Labor Unions and other organizations of workers, and shall post, in a conspicuous place available to employees or applicants for employment, a completed copy of the form entitled "Notice to Labor Unions or Other Organizations of Workers" attached to and made a part of this Agreement.

ARTICLE 12.03 SAFETY AND HEALTH REGULATIONS

The Contractor shall comply with the Department of Labor Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 (PL 91- 596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL 91-54). Nothing in these Acts shall be construed to supersede or in any manner affect any worker's compensation law or statutory rights, duties, or liabilities of employers and employees under any law with respect to injuries, diseases, or death of employees arising out of, or in the course of, employment.

ARTICLE 12.04 Not Applicable

ARTICLE 12.05 PREVAILING RATES OF WAGES

Florida's prevailing wage law was repealed effective April 25, 1979.

For Federally assisted projects, appropriate prevailing wage rate determinations are indicated on pages beginning with WR-1.

IN WITNESS THEREOF, the parties have hereunto set their hands and seals, and such of them as are corporation have caused these present to be signed by their duly authorized officers.

CITY OF TAMPA, FLORIDA

Jane Castor, Mayor

(SEAL)

ATTEST:

City Clerk

Approved as to Form: The execution of this document was authorized by Resolution No. _____

_____ e/s _____

Justin R. Vaske, Senior Assistant City Attorney

Contractor _____

By: _____

ATTEST:

Witness

Bidder's Statement Regarding Bidder's Criminal History Screening Practices:

Pursuant to Sec. 2-284. - Bidder's Criminal History Screening Practices, the bidder declares as follows:

☐ The Bidder hereby declines any discount or incentive related to Section 2-284 Bidder's Criminal History Screening Practices.

☐ The Bidder hereby applies for applicable discount or incentive related to Section 2-284 Bidder's Criminal History Screening Practices. The following documentation and assurances are provided:

___ Notarized past employment analysis that includes the number of disadvantaged workers the bidder has hired in the past, or, if the bidder has never hired a disadvantaged worker, an explanation that the bidder made a good faith effort to hire a disadvantaged worker: and,

___ An estimate of the number of disadvantaged workers that the bidder has hired or plans to hire if the bidder is awarded the project; and,

___ Evidence that the bidder's recruitment literature and employment policy does not include language that is disadvantageous to a disadvantaged worker.

___ Identifies, [] hereon [] in attached document, potential job opportunities under the project that may be available for disadvantaged workers if the City awards the Bidder the project; and,

___ Agrees to consider for job placement at least one otherwise qualified disadvantaged worker, to the extent a job opportunity is available, if and after the Bidder is awarded the project; or

___ The Bidder currently employs a percentage of disadvantaged workers consistent with industry standards as determined by the director of the soliciting department or designee.

Signed _____

Date _____

Name _____

Title _____

Firm _____

Form BTB-1

PUBLIC CONSTRUCTION BOND form

Bond No. (enter bond number)_____

Name of Contractor:_____

Principal Business Address of Contractor:_____

Telephone Number of Contractor:_____

Name of Surety (if more than one list each):_____

Principal Business Address of Surety:_____

Telephone Number of Surety:_____

Owner is The City of Tampa, Florida

Principal Business Address of Owner:_____ 306 E Jackson St, Tampa, FL 33602

_____ Contract Administration Department (280A4N)

Telephone Number of Owner:_____ 813/274-8456

Contract Number Assigned by City to contract which is the subject of this bond:_____

Legal Description or Address of Property Improved or Contract Number is:_____

General Description of Work and Services:_____

KNOW ALL MEN BY THESE PRESENTS That we, _____ (Name of Contractor)

as Principal, hereinafter called CONTRACTOR, of the State of _____, and

_____(Name of Surety)

a corporation organized and existing under and by virtue of the laws of the State of

_____, and regularly authorized to do business in the State of Florida, as

SURETY, are held and firmly bound unto the City of Tampa, a municipal corporation organized and

existing under the laws of the State of Florida, hereinafter called Owner, in the penal sum of

_____Dollars and _____Cents (\$_____), lawful

money of the United States of America, for the payment whereof well and truly to be made, we bind

ourselves, our heirs, executors, and administrators, successors and assigns, jointly and severally, firmly

by these presents.

THE CONDITION OF THIS BOND is that if Principal:

1. Performs the contract dated _____, _____, 20____, between Principal and Owner

for construction of _____, the contract

being made a part of this bond by reference, in the time and in the manner prescribed in the

contract; and

2. Promptly makes payments to all claimants, as defined in Section 255.05(1) (Section 713.01), Florida

Statutes, supplying Principal with labor, materials, or supplies, used directly or indirectly by Principal

in the prosecution of the work provided for in the contract; and

3. Pays Owner all losses, damages, expenses, costs, and attorney's fees, including appellate

proceedings, that Owner sustains because of a default by Principal under the contract; and

4. Performs the guarantee of all work and materials furnished under the contract for the time

specified in the contract, then this bond is void; otherwise it remains in full force.

5. Contractor and Surety acknowledge that the Work for which this bond has been issued may be one

of several such contract documents for a group of projects. This bond does not secure covenants to

pay for or to perform design services survey or program management services. The Owner/Obligee is expected to reasonably account for damages that are caused to Owner with respect to Principal's (Contractor's) default in performance of the scope of the Work incorporated by reference into the bond, and notwithstanding any contractual or common law remedy permitted to Owner as against Contractor, the obligation of Surety for any damages under this bond shall be determined by the cost of completion of the Work less the contract balance unpaid upon default of Contractor for the Work plus liquidated damages at the rate of \$500.00 per day for delays by the Contractor and/or Surety in reaching substantial completion.

6. The notice requirements for claimants and conditions for entitlement to payment set forth in Section 255.05, Fla. Stat. and the limitations period to actions upon Section 255.05, Fla. Stat. bonds apply to claimants seeking payment from surety under this bond. Any action instituted by a claimant under this bond for payment must be in accordance with the notice and time limitation provisions in Section 255.05, Florida Statutes.

7. The Surety, for value received, hereby stipulates and agrees that no changes, extensions of time, alterations or additions to the terms of the contract documents or other Work to be performed hereunder, or the specifications referred to therein shall in any way affect its obligations under this bond, and it does hereby waive notice of any such changes, extensions of time, alterations or additions to the terms of the Contract or to Work or to the specifications.

8. The above SURETY states that it has read all of the Contract Documents made by the CONTRACTOR with the CITY, hereto attached, and the terms and conditions of the contract and work, and is familiar therewith and in particular those portions of the Agreement concerning the guaranty of such CONTRACTOR for a period of one year following the date of the final acceptance of the completed work under the Contract by the CITY, all of which this BOND includes.

Tampa Construction Specifications
Contract 26-C-00029; Howard F. Curren AWTP Aquifer Recharge Wells Construction

DATED ON _____, 20____

(Name of Principal)

(Principal Business Address)

By _____

Title _____

Telephone Number of Surety _____

Telephone Number of Principal

Approved as to legal sufficiency:

(Name of Surety)

(Surety Address)

By _____

(As Attorney in Fact)*

By _____ e/s

Justin R. Vaske, Senior Assistant City Attorney

City of Tampa, Florida (Name of Local Agency)

_____ (Address of Resident Agent)

By _____

Title _____

Telephone Number of Local Agency

*(As Attorney in Fact) attach Power of Attorney and Current Certificate with Original Signature

SPECIFICATIONS

GENERAL PROVISIONS

SECTION 1

SCOPE AND INTENT

G-1.01 DESCRIPTION

The work to be done consists of the furnishing of all labor, materials and equipment, and the performance of all work included in this Contract.

G-1.02 WORK INCLUDED

The Contractor shall furnish all labor, superintendence, materials, plant, power, light, heat, fuel, water, tools, appliances, equipment, supplies, and other means of construction necessary or proper for performing and completing the work. He shall obtain and pay for all required permits. He shall perform and complete the work in the manner best calculated to promote rapid construction consistent with safety of life and property and to the satisfaction of the Engineer, and in strict accordance with the Contract Documents. The Contractor shall clean up the work and maintain it during and after construction, until accepted, and shall do all work and pay all costs incidental thereto. He shall repair or restore all structures and property that may be damaged or disturbed during performance of the work.

The cost of incidental work described in these General Provisions, for which there are no specific Contract Items, shall be considered as part of the overhead cost of doing the work and shall be included in the prices for the various Contract Items. No additional payment will be made therefor.

The Contractor shall provide and maintain such modern plant, tools, and equipment as may be necessary, in the opinion of the Engineer, to perform in a satisfactory and acceptable manner all the work required by this Contract. Only equipment of established reputation and proven efficiency shall be used. The Contractor shall be solely responsible for the adequacy of his plant and equipment, prior approval of the Engineer notwithstanding.

G-1.03 PUBLIC UTILITY INSTALLATIONS AND STRUCTURES

Public utility installations and structures shall be understood to include all poles, tracks, pipes, wires, conduits, house service connections, vaults, manholes, and all other appurtenances and facilities pertaining thereto whether owned or controlled by the City, other governmental bodies or privately

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owned by individuals, firms, or corporations, and used to serve the public with transportation, traffic control, gas, electricity, telephone, sewerage, drainage, water or other public or private property which may be affected by the work.

The Contract Documents contain data relative to existing public utility installations and structures above and below the ground surface. These data are not guaranteed as to their completeness or accuracy and it is the responsibility of the Contractor to make his own investigations to inform himself fully of the character, condition and extent of all such installations and structures as may be encountered and as may affect the construction operations.

The Contractor shall protect all public utility installations and structures from damage during the work. Access across any buried public utility installation or structure shall be made only in such locations and by means approved by the Engineer. The Contractor shall so arrange his operations as to avoid any damage to these facilities. All required protective devices and construction shall be provided by the Contractor at his expense. All existing public utilities damaged by the Contractor which are shown on the Plans or have been located in the field by the utility shall be repaired by the Contractor, at his expense, as directed by the Engineer. No separate payment shall be made for such protection or repairs to public utility installations or structures.

Public utility installations or structures owned or controlled by the City or other governmental body which are shown on the Plans to be removed, relocated, replaced or rebuilt by the Contractor shall be considered as a part of the general cost of doing the work and shall be included in the prices bid for the various Contract Items. No separate payment shall be made therefor.

Where public utility installations or structures owned or controlled by the City or other governmental body are encountered during the course of the work, and are not indicated on the Plans or in the Specifications, and when, in the opinion of the Engineer, removal, relocation, replacement or rebuilding is necessary to complete the work under this Contract, such work shall be accomplished by the utility having jurisdiction or such work may be ordered, in writing by the Engineer, for the Contractor to accomplish. If such work is accomplished by the utility having jurisdiction it will be carried out expeditiously and the Contractor shall give full cooperation to permit the utility to complete the removal, relocation, replacement or rebuilding as required. If such work is accomplished by the Contractor, it will be paid for as extra work as provided for in Article 7.02 of the Agreement.

The Contractor shall, at all times in performance of the work, employ approved methods and exercise reasonable care and skill so as to avoid unnecessary delay, injury, damage or destruction of public utility installations and structures; and shall, at all times in the performance of the work, avoid unnecessary interference with, or interruption of, public utility services, and shall cooperate fully with the owners thereof to that end.

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All City and other governmental utility departments and other owners of public utilities, which may be affected by the work, will be informed in writing by the Engineer within two weeks after the execution of the Contract or Contracts covering the work. Such notice will set out, in general, and direct attention to, the responsibilities of the City and other governmental utility departments and other owners of public utilities for such installations and structures as may be affected by the work and will be accompanied by one set of Plans and Specifications covering the work under such Contract or Contracts.

In addition to the general notice given by the Engineer, the Contractor shall give written notice to all City and other governmental utility departments and other owners of public utilities of the location of his proposed construction operations, at least forty-eight (48) hours in advance of breaking ground in any area or on any unit of the work. This can be accomplished by making the appropriate contact with the "Underground Utility Notification Center for Excavators (Call Candy)".

The maintenance, repair, removal, relocation, or rebuilding of public utility installations and structures, when accomplished by the Contractor as herein provided, shall be done by methods approved by the Engineer.

SECTION 2

PLANS AND SPECIFICATIONS

G-2.01 PLANS

The Plans referred to in the Contract Documents bear the general project name and number as shown in the Notice To Bidders.

When obtaining data and information from the Plans, figures shall be used in preference to scaled dimensions, and large scale drawings in preference to small scale drawings.

G-2.02 COPIES FURNISHED TO CONTRACTOR

After the Contract has been executed, the Contractor will be furnished with five sets of paper prints, the same size as the original drawings, of each sheet of the Plans and five copies of the Specifications. Additional copies of the Plans and Specifications, when requested, may be furnished to the Contractor at cost of reproduction.

The Contractor shall furnish each of the subcontractors, manufacturers, and material suppliers such copies of the Contract Documents as may be required for his work.

G-2.03 SUPPLEMENTARY DRAWINGS

When, in the opinion of the Engineer, it becomes necessary to explain more fully the work to be done or to illustrate the work further or to show any changes which may be required, drawings known as Supplementary Drawings, with specifications pertaining thereto, will be prepared by the Engineer and five paper prints thereof will be given to the Contractor.

The Supplementary Drawings shall be binding upon the Contractor with the same force as the Plans. Where such Supplementary Drawings require either less or more than the estimated quantities of work, credit to the City or compensation therefor to the Contractor shall be subject to the terms of the Agreement.

G-2.04 CONTRACTOR TO CHECK PLANS AND DATA

The Contractor shall verify all dimensions, quantities, and details shown on the Plans, Supplementary Drawings, Schedules, Specifications, or other data received from the Engineer, and shall notify him of all errors, omissions, conflicts, and discrepancies found therein. Failure to discover or correct errors, conflicts or discrepancies shall not relieve the Contractor of full responsibility for unsatisfactory work, faulty construction or improper operation resulting therefrom nor from rectifying such conditions at his own expense. He will not be allowed to take advantage of any errors or omissions as full instructions will be furnished by the Engineer, should such errors or omissions be discovered. All schedules are given for the convenience of the Engineer and the Contractor and are not guaranteed to be complete. The Contractor shall assume all responsibility for the making of estimates of the size, kind, and quality of materials and equipment included in work to be done under the Contract.

G-2.05 SPECIFICATIONS

The specifications consist of four parts, the General Provisions, the Technical Specifications, the Special Provisions and the Contract Items. The General Provisions and Technical Specifications contain general requirements which govern the work. The Special Provisions and the Contract Items modify and supplement these by detailed requirements for the work and shall always govern, whenever there appears to be conflict.

G-2.06 INTENT

All work called for in the Specifications applicable to this Contract, but not shown on the Plans in their present form, or vice versa, shall be of like effect as if shown or mentioned in both. Work not specified in either the Plans or in the Specifications, but involved in carrying out their intent or in the complete

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and proper execution of the work, is required and shall be performed by the Contractor as though it were specifically delineated or described.

The apparent silence of the Specifications as to any detail, or the apparent omission from them of a detailed description concerning any work to be done and materials to be furnished, shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the best quality is to be used, and interpretation of these Specifications shall be made upon that basis.

SECTION 3

WORKING DRAWINGS

G-3.01 SCOPE

The Contractor shall promptly prepare and submit layout, detail and shop drawings to insure proper construction, assembly, and installation of the work using those materials and methods as hereafter specified under the Technical Specifications, Special Provisions and Contract Items.

These drawings shall accurately and distinctly present the following:

- a. All working and erection dimensions.
- b. Arrangements and sectional views.
- c. Necessary details, including complete information for making connections between work under this Contract and work under other Contracts.
- d. Kinds of materials and finishes.
- e. Parts listed and description thereof.

Drawings for mechanical equipment shall present, where applicable, such data as dimensions, weight and performance characteristics. These data shall show conformance with the performance characteristics and other criteria incorporated in the Plans and Specifications.

Each drawing shall be dated and shall contain the name of the project, Division number and description, the technical specifications section number, names of equipment or materials and the location at which the equipment or materials are to be installed. Location shall mean both physical location and location relative to other connected or attached material. The Engineer will return unchecked any submittal which does not contain complete data on the work and full information on related matters.

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Stock or standard drawings will not be accepted for review unless full identification and supplementary information is shown thereon in ink or typewritten form.

The Contractor shall review all working drawing submittals before transmitting them to the Engineer to determine that they comply with requirements of the Specifications. Drawings which are incomplete or are not in compliance with the Contract Documents shall not be submitted for processing by the Engineer. The Contractor shall place his stamp of approval on all working drawings submitted to the Engineer to indicate compliance with the above.

G-3.02 APPROVAL

If the working drawings show departures from the Contract requirements, the Contractor shall make specific mention thereof in his letter of submittal; otherwise approval of such submittals shall not constitute approval of the departure. Approval of the drawings shall constitute approval of the subject matter thereof only and not of any structure, material, equipment, or apparatus shown or indicated.

The approval of drawings will be general and shall not relieve the Contractor of responsibility for the accuracy of such drawings, nor for the proper fitting and construction of the work, nor for the furnishing of materials or work required by the Contract and not indicated on the drawings. No work called for by working drawings shall be done until such drawings have been approved by the Engineer.

The procedure in seeking approval of the working drawings shall be as follows:

- 1.The Contractor shall submit four complete sets of drawings and other descriptive data together with one copy of a letter of transmittal to the Engineer for approval. The letter of transmittal shall contain the name of the project, contract number, technical specifications section number, the name of the Contractor, a list of drawings with numbers and titles, and any other pertinent information.
- 2.Drawings or descriptive data will be stamped "Approved", "Approved Subject to Corrections Marked", or "Examined and Returned for Correction" and one copy with a letter of transmittal will be returned to the Contractor.
- 3.If a drawing or other data is stamped "Approved", the Contractor shall insert the date of approval on five additional copies of the document and transmit the five copies to the Engineer together with one copy of a letter of transmittal containing substantially the same information as described in Instruction 1. above.
- 4.If a drawing or other data is stamped "Approved Subject to Corrections Marked", the Contractor shall make the corrections indicated and proceed as in Instruction 3., above.

5.If a drawing or data is stamped "Examined and Returned for Correction", the Contractor shall make the necessary corrections and resubmit the documents as set forth in Instruction 1., above. The letter of transmittal shall indicate that this is a resubmittal.

The Contractor shall revise and resubmit the working drawings as required by the Engineer, until approval thereof is obtained.

SECTION 4

MATERIALS AND EQUIPMENT

G-4.01 GENERAL REQUIREMENTS

All materials, appliances, and types or methods of construction shall be in accordance with the Specifications and shall, in no event, be less than that necessary to conform to the requirements of any applicable laws, ordinances, and codes.

All materials and equipment shall be new, unused, and correctly designed. They shall be of standard first grade quality, produced by expert personnel, and intended for the use for which they are offered. Materials or equipment which, in the opinion of the Engineer, are inferior or of a lower grade than indicated, specified, or required will not be accepted.

The quality of Workmanship and Materials entering into the work under this Contract shall conform to the requirements of the pertinent sections, clauses, paragraphs, and sentences, both directly and indirectly applicable thereto, of that part of the Technical Specifications, whether or not direct reference to such occurs in the Contract Items.

Equipment and appurtenances shall be designed in conformity with ANSI, ASME, IEEE, NEMA and other generally accepted standards and shall be of rugged construction and of sufficient strength to withstand all stresses which may occur during fabrication, testing, transportation, installation, and all conditions of operation. All bearings and moving parts shall be adequately protected against wear by bushings or other approved means and shall be fully lubricated by readily accessible devices. Details shall be designed for appearance as well as utility. Protruding members, joints, corners, gear covers, and the like, shall be finished in appearance. All exposed welds shall be ground smooth and the corners of structural shapes shall be mitered.

Equipment shall be of the approximate dimensions as indicated on the Plans or as specified, shall fit the spaces shown on the Plans with adequate clearances, and shall be capable of being handled through

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openings provided in the structure for this purpose. The equipment shall be of such design that piping and electrical connections, ductwork, and auxiliary equipment can be assembled and installed without causing major revisions to the location or arrangement of any of the facilities.

Machinery parts shall conform exactly to the dimensions shown on the working drawings. There shall be no more fitting or adjusting in setting up a machine than is necessary in assembling high grade apparatus of standard design. The equivalent parts of identical machines shall be made interchangeable. All grease lubricating fittings on equipment shall be of a uniform type. All machinery and equipment shall be safeguarded in accordance with the safety codes of the ANSI and applicable state and local codes.

G-4.02 MANUFACTURER

The names of proposed manufacturers, suppliers, material, and dealers who are to furnish materials, fixtures, equipment, appliances or other fittings shall be submitted to the Engineer for approval, as early as possible, to afford proper investigation and checking. Such approval must be obtained before shop drawings will be checked. No manufacturer will be approved for any materials to be furnished under this Contract unless he shall be of good reputation and have a plant of ample capacity. He shall, upon the request of the Engineer, be required to submit evidence that he has manufactured a similar product to the one specified and that it has been previously used for a like purpose for a sufficient length of time to demonstrate its satisfactory performance.

All transactions with the manufacturers or subcontractors shall be through the Contractor, unless the Contractor shall request, in writing to the Engineer, that the manufacturer or subcontractor deal directly with the Engineer. Any such transactions shall not in any way release the Contractor from his full responsibility under this Contract.

Any two or more pieces of material or equipment of the same kind, type or classification, and being used for identical types of service, shall be made by the same manufacturer.

G-4.03 REFERENCE TO STANDARDS

Whenever reference is made to the furnishing of materials or testing thereof to conform to the standards of any technical society, organization or body, it shall be construed to mean the latest standard, code, specification or tentative specification adopted and published at the date of advertisement for proposals, even though reference has been made to an earlier standard, and such standards are made a part hereof to the extent which is indicated or intended.

Reference to a technical society, organization or body may be made in the Specifications by abbreviations, in accordance with the following list:

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AASHTO for American Association of State Highway and Transportation Officials (formerly AASHO)

ACI for American Concrete Institute

AGMA for American Gear Manufacturer's Association

AFBMA for Anti-Friction Bearing Manufacturer's Association

AISC for American Institute of Steel Construction

AISI for American Iron and Steel Institute

ANSI for American National Standards Institute

ASCE for American Society of Civil Engineers

ASTM for American Society for Testing and Materials

ASME for American Society of Mechanical Engineers

AWS for American Welding Society

AWWA for American Water Works Association

AWPA for American Wood Preservers Association

CEMA for Conveyor Equipment Manufacturers Association

CIPRA for Cast Iron Pipe Research Association

IEEE for Institute of Electrical and Electronic Engineers

IPCEA for Insulated Power Cable Engineers Association

NEC for National Electrical Code

NEMA for National Electrical Manufacturers Association

SAE for Society of Automotive Engineers

SHBI for Steel Heating Boiler Institute

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Fed.Spec. for Federal Specifications

Navy Spec. for Navy Department Specifications

U.L.,Inc. for Underwriters' Laboratories, Inc.

When no reference is made to a code, standard or specification, the Standard Specifications of the ANSI, the ASME, the ASTM, the IEEE, or the NEMA shall govern.

G-4.04 SAMPLES

The Contractor shall, when required, submit to the Engineer for approval typical samples of materials and equipment. The samples shall be properly identified by tags and shall be submitted sufficiently in advance of the time when they are to be incorporated into the work, so that rejections thereof will not cause delay. A letter of transmittal, in duplicate, from the Contractor requesting approval must accompany all such samples.

G-4.05 EQUIVALENT QUALITY

Whenever, in the Contract Documents, an article, material, apparatus, equipment, or process is called for by trade name or by the name of a patentee, manufacturer, or dealer or by reference to catalogs of a manufacturer or dealer, it shall be understood as intending to mean and specify the article, material, apparatus, equipment or process designated, or any equal thereto in quality, finish, design, efficiency, and durability and equally serviceable for the purposes for which it is intended.

Whenever material or equipment is submitted for approval as being equal to that specified, the decision as to whether or not such material or equipment is equal to that specified shall be made by the Engineer.

Upon rejection of any material or equipment submitted as the equivalent of that specifically named in the Contract, the Contractor shall immediately proceed to furnish the designated material or equipment.

Neither the approval by the Engineer of alternate material or equipment as being equivalent to that specified nor the furnishing of the material or equipment specified, shall in any way relieve the Contractor of responsibility for failure of the material or equipment, due to faulty design, material, or workmanship, to perform the functions required of them by the Specifications.

G-4.06 DELIVERY

The Contractor shall deliver materials in ample quantities to insure the most speedy and uninterrupted

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progress of the work so as to complete the work within the allotted time. The Contractor shall also coordinate deliveries in order to avoid a delay in, or impediment of, the progress of the work of any related Contractor.

G-4.07 CARE AND PROTECTION

The Contractor shall be solely responsible for properly storing and protecting all materials, equipment, and work furnished under the Contract from the time such materials and equipment are delivered at the site of the work until final acceptance thereof. He shall, at all times, take necessary precautions to prevent injury or damage by water, freezing, or by inclemencies of the weather to such materials, equipment and work. All injury or damage to materials, equipment, or work resulting from any cause whatsoever shall be made good by the Contractor.

The Engineer shall, in all cases, determine the portion of the site to be used by the Contractor for storage, plant or for other purposes. If, however, it becomes necessary to remove and restack materials to avoid impeding the progress of any part of the work or interference with the work to be done by any other Contractor, the Contractor shall remove and restack such materials at his own expense.

G-4.08 TOOLS AND ACCESSORIES

The Contractor shall, unless otherwise stated in the Contract Documents, furnish with each type, kind or size of equipment, one complete set of suitably marked high grade special tools and appliances which may be needed to adjust, operate, maintain, or repair the equipment. Such tools and appliances shall be furnished in approved painted steel cases, properly labeled and equipped with good grade cylinder locks and duplicate keys.

Spare parts shall be furnished as specified.

Each piece of equipment shall be provided with a substantial nameplate, securely fastened in place and clearly inscribed with the manufacturer's name, year of manufacture, serial number, weight and principal rating data.

G-4.09 INSTALLATION OF EQUIPMENT

The Contractor shall have on hand sufficient proper equipment and machinery of ample capacity to facilitate the work and to handle all emergencies normally encountered in work of this character.

Equipment shall be erected in a neat and workmanlike manner on the foundations at the locations and elevations shown on the Plans, unless directed otherwise by the Engineer during installation. All

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equipment shall be correctly aligned, leveled and adjusted for satisfactory operation and shall be installed so that proper and necessary connections can be made readily between the various units.

The Contractor shall furnish, install and protect all necessary anchor and attachment bolts and all other appurtenances needed for the installation of the devices included in the equipment specified. Anchor bolts shall be as approved by the Engineer and made of ample size and strength for the purpose intended. Substantial templates and working drawings for installation shall be furnished.

The Contractor shall, at his own expense, furnish all materials and labor for, and shall properly bed in non-shrink grout, each piece of equipment on its supporting base that rests on masonry foundations. Grout shall completely fill the space between the equipment base and the foundation.

G-4.10 OPERATING INSTRUCTIONS

The Contractor, through qualified individuals, shall adequately instruct designated employees of the City in the operation and care of all equipment installed hereunder, except for equipment that may be furnished by the City.

The Contractor shall also furnish and deliver to the Engineer three complete sets for permanent files, identified in accordance with Subsection G-3.01 hereof, of instructions, technical bulletins and any other printed matter, such as diagrams, prints or drawings, containing full information required for the proper operation, maintenance, and repair, of the equipment installed and the ordering of spare parts, except for equipment that may be furnished by the City.

In addition to the above three copies, the Contractor shall furnish any additional copies that may be required for use during construction and start-up operations.

G-4.11 SERVICE OF MANUFACTURER'S ENGINEER

The Contract prices for equipment shall include the cost of furnishing a competent and experienced engineer or superintendent who shall represent the manufacturer and shall assist the Contractor, when required, to install, adjust, test and place in operation the equipment in conformity with the Contract Documents. After the equipment is placed in permanent operation by the City, such engineer or superintendent shall make all adjustments and tests required by the Engineer to provide that such equipment is in proper and satisfactory operating condition, and shall instruct such personnel as may be designated by the City in the proper operation and maintenance of such equipment.

SECTION 5

INSPECTION AND TESTING

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G-5.01 GENERAL

The Contractor's attention is hereby directed to Article 3.03 of the Agreement.

Inspection and testing of materials will be performed by the City unless otherwise specified.

For tests specified to be made by the Contractor, the testing personnel shall make the necessary inspections and tests and the reports thereof shall be in such form as will facilitate checking to determine compliance with the Contract Documents. Five copies of the reports shall be submitted and authoritative certification thereof must be furnished to the Engineer as a prerequisite for the acceptance of any material or equipment.

If, in the making of any test of any material or equipment, it is ascertained by the Engineer that the material or equipment does not comply with the Contract, the Contractor will be notified thereof and he will be directed to refrain from delivering said material and equipment, or to remove it promptly from the site or from the work and replace it with acceptable material, without cost to the City.

Tests of electrical and mechanical equipment and appliances shall be conducted in accordance with recognized test codes of the ANSI, ASME, or the IEEE, except as may otherwise be stated herein.

The Contractor shall be fully responsible for the proper operation of equipment during tests and instruction periods and shall neither have nor make any claim for damage which may occur to equipment prior to the time when the City formally takes over the operation thereof.

G-5.02 COSTS

All inspection and testing of materials furnished under this Contract will be performed by the City or duly authorized inspection engineers or inspection bureaus without cost to the Contractor, unless otherwise expressly specified.

The cost of shop and field tests of equipment and of certain other tests specifically called for in the Contract Documents shall be borne by the Contractor and such costs shall be deemed to be included in the contract price.

Materials and equipment submitted by the Contractor as the equivalent to those specifically named in the Contract may be tested by the City for compliance. The Contractor shall reimburse the City for the expenditures incurred in making such tests on materials and equipment which are rejected for noncompliance.

G-5.03 INSPECTIONS OF MATERIALS

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The Contractor shall give notice, in writing to the Engineer, sufficiently in advance of his intention to commence the manufacture or preparation of materials especially manufactured or prepared for use in or as part of the permanent construction. Such notice shall contain a request for inspection, the date of commencement and the expected date of completion of the manufacture or preparation of materials. Upon receipt of such notice the Engineer will arrange to have a representative present at such times during the manufacture as may be necessary to inspect the materials or he will notify the Contractor that inspection will be made at a point other than the point of manufacture, or he will notify the Contractor that inspection will be waived. The Contractor must comply with these provisions before shipping any material. Such inspection shall not release the Contractor from the responsibility for furnishing materials meeting the requirements of the Contract Documents.

G-5.04 CERTIFICATE OF MANUFACTURE

When inspection is waived or when the Engineer so requires, the Contractor shall furnish to him authoritative evidence in the form of Certificates of Manufacture that the materials to be used in the work have been manufactured and tested in conformity with the Contract Documents. These certificates shall be notarized and shall include copies of the results of physical tests and chemical analyses, where necessary, that have been made directly on the product or on similar products of the manufacturer.

G-5.05 SHOP TESTS OF OPERATING EQUIPMENT

Each piece of equipment for which pressure, duty, capacity, rating, efficiency, performance, function, or special requirements are specified shall be tested in the shop of the maker in a manner which shall conclusively prove that its characteristics comply fully with the requirements of the Contract Documents. No such equipment shall be shipped to the work until the Engineer notifies the Contractor, in writing, that the results of such tests are acceptable.

Five copies of the manufacturer's actual test data and interpreted results thereof, accompanied by a certificate of authenticity sworn to by a responsible official of the manufacturing company, shall be forwarded to the Engineer for approval.

The cost of the shop tests and of furnishing manufacturer's preliminary and shop test data of operating equipment shall be borne by the Contractor.

G-5.06 PRELIMINARY FIELD TESTS

As soon as conditions permit, the Contractor shall furnish all labor, materials, and instruments and shall make preliminary field tests of equipment. If the preliminary field tests disclose any equipment furnished under this Contract which does not comply with the requirements of the Contract

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Documents, the Contractor shall, prior to the acceptance tests, make all changes, adjustments, and replacements required.

G-5.07 FINAL FIELD TESTS

Upon completion of the work and prior to final payment, all equipment and appliances installed under this Contract shall be subjected to acceptance tests as specified or required to prove compliance with the Contract Documents.

The Contractor shall furnish labor, fuel, energy, water and all other materials, equipment, and instruments necessary for all acceptance tests, at no additional cost to the City.

G-5.08 FAILURE OF TESTS

Any defects in the materials and equipment or their failure to meet the tests, guarantees or requirements of the Contract Documents shall be promptly corrected by the Contractor by replacements or otherwise. The decision of the Engineer as to whether or not the Contractor has fulfilled his obligations under the Contract shall be final and conclusive. If the Contractor fails to make those corrections or if the improved materials and equipment, when tested, shall again fail to meet the guarantees or specified requirements, the City, notwithstanding its partial payment for work, and materials and equipment, may reject the materials and equipment and may order the Contractor to remove them from the site at his own expense.

In case the City rejects any materials and equipment, then the Contractor shall replace the rejected materials and equipment within a reasonable time. If he fails to do so, the City may, after the expiration of a period of thirty calendar days after giving him notice in writing, proceed to replace such rejected materials and equipment, and the cost thereof shall be deducted from any compensation due or which may become due the Contractor under this Contract.

The City agrees to obtain other equipment within a reasonable time and the Contractor agrees that the City may use the equipment furnished by him without rental or other charges until the new equipment is obtained.

Materials or work in place that fails to pass acceptability tests shall be retested at the direction of the construction engineer all such retests shall be at the Contractor's expense. The rates charged shall be in accordance with the Department of Public Works current annual inspection contract which is available for inspection at the offices of the Department of Public Works.

G-5.09 FINAL INSPECTION

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The procedures for final inspection shall be in accordance with the provisions of Article 4.07 of the Agreement. During such final inspections, the work shall be clean and free from water. In no case will the final estimate be prepared until the Contractor has complied with all the requirements set forth and the Engineer has made his final inspection of the entire work and is satisfied that the entire work is properly and satisfactorily constructed in accordance with the requirements of the Contract Documents.

SECTION 6

TEMPORARY STRUCTURES

G-6.01 GENERAL

All false work, scaffolding, ladders, hoistways, braces, pumping plants, shields, trestles, roadways, sheeting, centering forms, barricades, drains, flumes, and the like, any of which may be needed in the construction of any part of the work and which are not herein described or specified in detail, must be furnished, maintained and removed by the Contractor, and he shall be responsible for the safety and efficiency of such works and for any damages that may result from their failure or from their improper construction, maintenance, or operation.

G-6.02 PUBLIC ACCESS

At all points in the work where public access to any building, house, place of business, public road, or sidewalk would be obstructed by any action of the Contractor in executing the work required by this Contract, the Contractor shall provide such temporary structure, bridges or roadway as may be necessary to maintain public access at all times. At least one lane for vehicular traffic shall be maintained in streets in which the Contractor is working. Street closure permits are required from the Department of Public Works.

The Contractor shall provide suitable temporary bridges, as directed by the Engineer, at street intersections when necessary for the maintenance of vehicular and pedestrian traffic.

Prior to temporarily cutting of access to driveways and garages, the Contractor shall give twelve (12) hours notice to affected property owners. Interruptions to use of private driveways shall be kept to a minimum.

G-6.03 CONTRACTOR'S FIELD OFFICE

The Contractor shall erect, furnish and maintain a field office with a telephone at the site during the entire period of construction. He or an authorized agent shall be present at this office at all times

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while his work is in progress. Readily accessible copies of both the Contract Documents and the latest approved working drawings shall be kept at this field office.

G-6.04 TEMPORARY FENCE

If, during the course of the work, it is necessary to remove or disturb any fence or part thereof, the Contractor shall, at his own expense, if so ordered by the Engineer, provide a suitable temporary fence which shall be maintained until the permanent fence is replaced. The Engineer shall be solely responsible for the determination of the necessity for providing a temporary fence and the type of temporary fence to be used.

G-6.05 RESPONSIBILITY FOR TEMPORARY STRUCTURES

In accepting the Contract, the Contractor assumes full responsibility for the sufficiency and safety of all temporary structures or work and for any damage which may result from their failure or their improper construction, maintenance, or operation and will indemnify and save harmless the City from all claims, suits or actions and damages or costs of every description arising by reason of failure to comply with the above provisions.

SECTION 7

TEMPORARY SERVICES

G-7.01 WATER

The Contractor shall provide the necessary water supply at his own expense. He shall, if necessary, provide and lay necessary waterlines from existing mains to the place of using, shall secure all necessary permits and pay for all taps to water mains or hydrants and for all water used at the established rates.

G-7.02 LIGHT AND POWER

The Contractor shall provide, at his own expense, temporary lighting and power facilities required for the proper prosecution and inspection of the work. If, in the opinion of the Engineer, these facilities are inadequate, the Contractor will not be permitted to proceed with any portion of the work affected thereby.

G-7.03 SANITARY REGULATIONS

The Contractor shall prohibit and prevent the committing of nuisances on the site of the work or on adjoining property and shall discharge any employee who violates this rule.

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Ample washrooms and toilet facilities and a drinking water supply shall be furnished and maintained in strict conformity with the law by the Contractor for use by his employees.

G-7.04 ACCIDENT PREVENTION

Precautions shall be exercised at all times for the protection of persons and property. The safety provisions of applicable laws, building and construction codes shall be observed. The Contractor shall comply with the U. S. Department of Labor Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 (PL 91-596), and under Section 107 of the Contract Work. Hours and Safety Standards Act (PL 91-54), except where state and local safety standards exceed the federal requirements and except where state safety standards have been approved by the Secretary of Labor in accordance with provisions of the Occupational Safety and Health Act.

G-7.05 FIRST AID

The Contractor shall keep upon the site, at each location where work is in progress, a completely equipped first aid kit and shall provide ready access thereto at all times when men are employed on the work.

G-7.06 HEATING

The Contractor shall provide temporary heat, at his own expense, whenever required on account of work being carried on during cold weather and to prevent freezing of water pipes and other damage to the work.

SECTION 8

LINES AND GRADES

G-8.01 GENERAL

All work done under this Contract shall be constructed in accordance with the lines and grades shown on the Plans, or as given by the Engineer. The full responsibility for keeping alignment and grade shall rest upon the Contractor.

The Engineer will establish bench marks and base line controlling points. Reference remarks for lines and grades as the work progresses will be located to cause as little inconvenience to the prosecution of the work as possible. The Contractor shall so place excavation and other materials as to cause no

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inconvenience in the use of the use of the reference marks provided. He shall remove any obstructions placed by him contrary to this provision.

G-8.02 SURVEYS

The Contractor shall furnish and maintain, at his own expense, stakes and other such materials, and give such assistance, including qualified helpers, as may be required by the Engineer for setting reference marks. The Contractor shall check such reference marks by such means as he may deem necessary and, before using them, shall call the Engineer's attention to any inaccuracies. The Contractor shall, at his own expense, establish all working or construction lines and grades as required from the reference marks set by the Engineer, and shall be solely responsible for the accuracy thereof. He shall, however, be subject to the check and review of the Engineer.

The Contractor shall keep the Engineer informed a reasonable time in advance as to his need for line and grade reference marks, in order that they may be furnished and all necessary measurements made for record and payment with the minimum of inconvenience to the Engineer or of delay to the Contractor.

It is the intention not to delay the work for the establishment of reference marks but, when necessary, working operations shall be suspended for such reasonable time as the Engineer may require for this purpose.

G-8.03 SAFEGUARDING MARKS

The Contractor shall safeguard all points, stakes, grade marks, monuments and bench marks made or established on the work, bear the cost of reestablishing them if disturbed, and bear the entire expense of rectifying work improperly installed due to not maintaining or protecting or to removing without authorization such established points, stakes and marks.

The Contractor shall safeguard all existing and known property corners, monuments and marks adjacent to but not related to the work and, if required, shall bear the cost of reestablishing them if disturbed or destroyed.

G-8.04 DATUM PLANE

All elevations indicated or specified refer to the Mean Sea Level Datum of the U.S.C. & G.S. (N.O.S.) which is 0.80 feet above the Mean Low Water Datum of the U. S. Army Corps of Engineers.

SECTION 9

ADJACENT STRUCTURES AND LANDSCAPING

G-9.01 RESPONSIBILITY

The responsibility for removal, replacement, relocation, repair, rebuilding or protection of all public utility installations, including poles, tracks, pipes, wires, conduits, house service connections, vaults, manholes, sewers, traffic control and fire alarm signal circuit installations and other appurtenances and facilities shall be in accordance with G-1.02 and G-1.03.

The Contractor shall also be entirely responsible and liable for all damage or injury as a result of his operations to all other adjacent public and private property, structures of any kind and appurtenances thereto met with during the progress of the work. The cost of protection, replacement in their original locations and conditions or payment of damages for injuries to such adjacent public and private property and structures affected by the work, whether or not shown on the Plans, and the removal, relocation, and reconstruction of such items called for on the Plans or specified shall be included in the various Contract Items and no separate payment will be made therefor. Where such public and private property, structures of any kind and appurtenances thereto are not shown on the Plans and when, in the opinion of the Engineer, removal or relocation and reconstruction is necessary to avoid interference with the work, payment therefor will be made as provided for extra work in Article 7.02 of the Agreement.

G-9.02 PROTECTION OF TREES

All trees and shrubs shall be adequately protected by the Contractor with boxes or otherwise and, within the City of Tampa, in accordance with ordinances governing the protection of trees. No excavated materials shall be placed so as to injure such trees or shrubs. Trees or shrubs destroyed by negligence of the Contractor or his employees shall be replaced by him with new stock of similar size and age, at the proper season, and at the sole expense of the Contractor.

Beneath trees or other surface structures, where possible, pipelines may be built in short tunnels, backfilled with excavated materials, except as otherwise specified, or the trees or structures carefully supported and protected from damage.

The City may order the Contractor, for the convenience of the City, to remove trees along the line of trench excavation. If so ordered, the City will obtain any permits required for removal of trees. Such tree removal ordered shall be paid for under the appropriate Contract Items.

G-9.03 LAWN AREAS

Lawn areas shall be left in as good condition as before the starting of the work. Where sod is to be

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removed, it shall be carefully removed and later replaced, or the area where sod has been removed shall be restored with new sod in the manner described in the Technical Specifications section.

G-9.04 RESTORATION OF FENCES

Any fence, or part thereof, that is damaged or removed during the course of the work shall be replaced or repaired by the Contractor and shall be left in as good a condition as before the starting of the work. The manner in which the fence is repaired or replaced and the materials used in such work shall be subject to the approval of the Engineer. The cost of all labor, materials, equipment, and work for the replacement or repair of any fence shall be deemed included in the appropriate Contract Item or Items, or if no specific Item is provided therefor, as part of the overhead cost of the work, and no additional payment will be made therefor.

SECTION 10

PROTECTION OF WORK AND PUBLIC

G-10.01 TRAFFIC REGULATIONS

The Contractor shall arrange his work to comply with Article G-6.02. The work shall be done with the least possible inconvenience to the public and to that end the work may be confined by the Engineer to one block at a time.

G-10.02 BARRIERS AND LIGHTS

During the prosecution of the work, the Contractor shall put up and maintain at all times such barriers, and lights, as will effectually prevent accidents. The Contractor shall provide suitable barricades, red lights, "danger" or "caution" or "street closed" signs and watchmen at all places where the work causes obstructions to the normal traffic or constitutes in any way a hazard to the public. Such barriers and signs shall be constructed to State of Florida Department of Transportation standards and placed as recommended by the Traffic Division of the City's Department of Public Works.

No open fires will be permitted.

G-10.03 SMOKE PREVENTIONS

The Contractor shall use hard coal, coke, oil or gas as fuel for equipment generating steam. A strict compliance with ordinances regulating the production and emission of smoke will be required.

G-10.04 NOISE

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The Contractor shall eliminate noise to as great an extent as practicable at all times. Air compressing plants shall be equipped with silencers and the exhaust of all gasoline motors or other power equipment shall be provided with mufflers. In the vicinity of hospitals and schools, special care shall be used to avoid noise or other nuisances. The Contractor shall strictly observe all local regulations and ordinances covering noise control.

Except in the event of an emergency, no work shall be done between the hours of 7:00 p.m. and 7:00 a.m., or on Sundays. If the proper and efficient prosecution of the work requires operations during the night, the written permission of the Engineer shall be obtained before starting such items of the work.

G-10.05 ACCESS TO PUBLIC SERVICES

Neither the materials excavated nor the materials or plant used in the construction of the work shall be so placed as to prevent free access to all fire hydrants, valves or manholes.

G-10.06 DUST PREVENTION

The Contractor shall prevent dust nuisance from his operations or from traffic by keeping the streets sprinkled with water at all times.

G-10.07 PRIVATE PROPERTY

The Contractor shall so conduct the work that no equipment, material, or debris will be placed or allowed to fall upon private property in the vicinity of the work unless he shall have obtained the owner's written consent thereto and shall have shown this consent to the Engineer.

SECTION 11

SLEEVES AND INSERTS

G-11.01 COORDINATION

When the Contract requires the placing of conduits, saddles, boxes, cabinets, sleeves, inserts, foundation bolts, anchors, and other like work in floors, roofs, or walls of buildings and structures, they shall be promptly installed in conformity with the construction program. The Contractor who erects the floors, roofs, and walls shall facilitate such work by fully cooperating with the Contractors responsible for installing such appurtenances. The Contractor responsible for installing such appurtenances shall arrange the work in strict conformity with the construction schedule and avoid interference with the work of other contractors.

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G-11.02 OPENINGS TO BE PROVIDED

In the event timely delivery of sleeves and other materials cannot be made and to avoid delay, the affected Contractor may arrange to have boxes or other forms set at the locations where the appurtenances are to pass through or into the floors, roofs, walls, or other work. Upon the subsequent installation of these appurtenances, the Contractor erecting the structure shall fill around them with materials as required by the Contract. The necessary expenditures incurred for the boxing out and filling in shall be borne by the Contractor or Contractors required to furnish the sleeves and inserts. Formed openings and later installation of sleeves will not be permitted at locations subject to hydrostatic pressure.

SECTION 12

CUTTING AND PATCHING

G-12.01 GENERAL

The Contractor shall do all cutting, fitting, or patching of his portion of the work that may be required to make the several parts thereof join and coordinate in a manner satisfactory to the Engineer and in accordance with the Plans and Specifications. The work must be done by competent workmen skilled in the trade required by the restoration.

SECTION 13

CLEANING

G-13.01 DURING CONSTRUCTION

During construction of the work, the Contractor shall, at all times, keep the site of the work and adjacent premises as free from material, debris, and rubbish as is practicable and shall remove the same from any portion of the site if, in the opinion of the Engineer, such material, debris, or rubbish constitutes a nuisance or is objectionable.

The Contractor shall remove from the site all of his surplus materials and temporary structures when no further need therefor develops.

G-13.02 FINAL CLEANING

At the conclusion of the work, all erection plant, tools, temporary structures and materials belonging to the Contractor shall be promptly taken away, and he shall remove and promptly dispose of all water, dirt, rubbish or any other foreign substances.

The Contractor shall thoroughly clean all equipment and materials installed by him and shall deliver such materials and equipment undamaged in a bright, clean, polished, and new appearing condition.

SECTION 14

MISCELLANEOUS

G-14.01 PROTECTION AGAINST SILTATION AND BANK EROSION

The Contractor shall arrange his operations to minimize siltation and bank erosion on construction sites and on existing or proposed watercourses and drainage ditches.

G-14.02 EXISTING FACILITIES

The work shall be so conducted to maintain existing facilities in operation insofar as is possible. Work shall be scheduled to minimize bypassing during construction. Requirements and schedules of operations for maintaining existing facilities in service during construction shall be as described in the Special Provisions.

G-14.03 USE OF CHEMICALS

All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant or of other classification, must show approval of either EPA or USDA. Use of all such chemicals and disposal of residues shall be in strict conformance with instructions.

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SPECIFIC PROVISIONS

SP-1 Scope

The work included under these Contract Documents comprises the construction of up to five (5) aquifer recharge wells (RW-1 through RW-5) and up to five (5) associated monitoring wells (MW-1 through MW-5) at the Howard F. Curren Advanced Wastewater Treatment Plant and all miscellaneous and appurtenant work.

The work consists of furnishing, constructing, installing, testing and maintaining the said wells and appurtenances complete and in place.

The Contractor shall furnish all labor, materials and equipment for the accomplishment of all work as described in the Specifications, as shown on the Plans and as directed by the Engineer in accordance with the obvious or expressed intent of the Contract.

Any provision in the Technical Specifications that is in addition to, supplementary to, or more detailed than the requirements of the General Provisions or the Specific Provisions—and does not directly contradict them—shall be treated as a valid requirement and must be fully adhered to. Provisions that duplicate or reiterate terms in the General Provisions or Specific Provision are intended to reinforce those requirements and shall not be construed as creating a separate, distinct, or cumulative obligation unless explicitly stated otherwise. The General Provisions or Specific Provisions (as applicable) govern if a provision in the Technical Specifications directly contradicts conflicts with or degrades the requirement of the General Provisions or Specific Provisions.

SP-2. Permits

The Contractor shall have in his possession the proper license to perform the work before submittal of his bid and shall obtain and pay for all other licenses and authorizations required for the prosecution of the work, including the cost of all work performed in compliance with the terms and conditions of such permits, licenses and authorizations, whether by himself or others.

The City building permits shall be submitted and paid by the Contractor.

The Contractor shall require all subcontractors to be currently licensed by the City to perform the proposed work in their respective fields and to obtain permits for the execution of said work. All work shall be performed in accordance with the licenses, permits and the requirements of the current Building and Construction Regulations Chapter of the City of Tampa Code.

The Contractor is responsible to schedule and coordinate with the City Inspectional Services Division of the Department of Housing and Development Coordination all required inspections and tests for all phases of work to obtain final approval thereof.

The Contractor is encouraged to contact the City's Permitting Department and Building Inspections Bureau prior to commencement of work to ascertain their respective requirements.

This project is located within an airport zone. The Contractor will be responsible for applying for and obtaining a Height Zoning Permit or any other required permit from the Federal Aviation Administration (FAA).

SP-5 Working Drawings

Prior to performing any work requiring working drawings, as specified on the Plans and in the Workmanship and Materials Sections, the Contractor shall submit the working drawings in accordance with the General Provisions section headed "Working Drawings."

SP-6 Environmental Protection

The Contractor will be held liable for the violation of any and all environmental regulations. Violation citations carry civil penalties and in the event of willful violation, criminal penalties. The fact that the permits are issued to the City does not relieve the Contractor in any way of his environmental obligations and responsibilities.

SP-8 Construction Start

Construction will not begin prior to receipt by the City of the required permits. If issuance of the Notice to Proceed is delayed due to permit acquisition, the contract time will be extended to suit, but no extra payment will be made to the Contractor.

Pre-Construction Subsurface Verification (SUE Requirements):

No clearing, grubbing, excavation, grading, trenching, or drilling shall commence until the Contractor has verified the location of all existing underground utilities within the project limits through Subsurface Utility Engineering (SUE), and confirmed no utility conflicts at the proposed drilling location to the full diameter of the largest casing proposed for vertical installation. This work shall be performed in accordance with ASCE 38 (Standard Guideline for Investigating and Documenting Existing Utilities). The Contractor will be responsible for securing the services of a firm specializing in SUE.

The subsurface investigation shall include Vacuum Excavation (Soft Dig) methods to physically locate and verify the precise horizontal and vertical position of utilities at all potential conflict points, and the absence of underground conflicts at the proposed drilling location. Soft dig verification must extend to a minimum depth of 20 feet below the existing grade unless a refusal on bedrock is documented. Mechanical excavation (backhoes, trenchers) is strictly prohibited for the purposes of this verification within the tolerance zone of known or suspected utilities.

Upon completion of the soft dig operations, the Contractor shall submit a SUE Verification Report to the Engineer. This report must include:

- A certified survey showing the X, Y, and Z coordinates of all nearby verified utilities, and confirmation that no utility conflicts are present within the full diameter of the largest casing proposed for installation.
- Photographic evidence of the utility exposed, or absence of underground conflicts in the test holes, including measurement of depth of investigation.
- Comparison of field-verified data against the original Contract Drawings.

Any damage to utilities resulting from failure to comply with this provision will be the sole responsibility of the Contractor.

SP-9 Coordination and Cooperation

In performing work under this Contract, the Contractor shall coordinate his work with that of any adjacent contractors for the City, and others, and cooperate with them in every reasonable way, to the end that there shall be the minimum practicable interference with their operations.

SP-13 Material and Equipment Approval

The Contractor shall not enter into any subcontracts, or place any order, for the furnishing of any material or equipment until he has received the Engineer's written approval of the manufacturers.

SP-14 Contractor Emergency Response Time

The Contractor must be available to service emergency calls seven (7) days a week, twenty-four (24) hours a day. The response time for emergency calls shall be within one (1) hour. A contact person and telephone number shall be provided to the Engineer for such purposes.

SP-16. Salvage

All existing items removed by the Contractor and which are not designated to be salvaged shall become the property of the Contractor and shall be removed from the site of the work to the Contractor's own place of disposal.

All salvageable materials, as determined by the Engineer, shall be removed by the Contractor and shall remain the property of the City unless otherwise noted.

All such salvaged items shall be removed by the Contractor, delivered, and unloaded at a location within the treatment plant's site, as directed by the Engineer. The Contractor shall include all necessary labor and equipment to unload the materials at a location designated by the City. The cost of removing, disposing, delivering, and unloading as salvage items of pipe and appurtenances shall be included in the various Contract Unit Prices or the Lump Sum Price, as

applicable, and no separate payment will be made therefor.

SP-17 Sequence of Operations

The Contractor shall develop with the Engineer a complete schedule of operations which, in the opinion of the Engineer, will permit use of the facility at the earliest possible date.

Taking over of parts of the work for operation before completion of the entire project shall not relieve the Contractor of any responsibility for proper integrated operations of all parts of the work, nor shall it act to relieve him of any responsibilities under Article A-6.04 of the Agreement, for guaranty of all parts of the work, for one year after the date of acceptance of all the work on the project.

SP-18 Dewatering

Dewatering is the responsibility of the Contractor. All costs associated with dewatering shall be included in the appropriate contract price for items to which dewatering is incidental, or in the total Lump Sum Price, as applicable, and no separate payment shall be made therefor.

Before commencing any excavation at the site of the work, the Contractor shall submit to the Engineer and obtain his approval of the methods and equipment and arrangement of facilities proposed for the removal and disposal of water at the site and of all water entering any excavation or other part of the work from any source whatsoever. Adequate standby facilities shall be provided to ensure that the excavation will be kept dry in the event of power failure or mechanical breakdown. Facilities for removal and disposal of water shall be of sufficient capacity to keep the excavation dry under all circumstances with one-half of the facilities out of service. If well points are used, provision shall be made for removing and resetting individual well points without taking the system of which they are a part out of service.

SP-19 Prevention, Control and Abatement of Erosion and Water Pollution

The Contractor shall be responsible for prevention, control and abatement of erosion, siltation and water pollution resulting from construction of the project until final acceptance of the project.

The Contractor shall provide, install, construct, and maintain any covering, mulching, sodding, sand bagging, berms, slope drains, sedimentation structures, or other devices necessary to meet City, County, State and Federal regulatory agency codes, rules and laws.

The Contractor shall take sufficient precautions to prevent pollution of streams, canals, lakes, reservoirs and other water impoundments with fuels, oils, bitumen, calcium chloride or other harmful materials. Also, he shall conduct and schedule his operations so as to avoid or otherwise minimize pollution or siltation of such streams, and the like, and to avoid interference with movement of migratory fish. No residue from dust collectors or washers shall be dumped into any live stream.

Storm drainage facilities, both open and closed conduit, serving the construction area shall be protected by the Contractor from pollutant and contaminants. If the Engineer determines that siltation of drainage facilities has resulted due to the project, the Engineer will advise the Contractor to remove and properly dispose of the deposited material. Should the Contractor fail to or elect not to remove the deposits, the City will provide maintenance cleaning as needed and will charge all costs of such service against the amount of money due or to become due the Contractor.

Construction operations in rivers, channels, streams, tidal waters, canals and other impoundments shall be restricted to those areas where it is necessary to perform filling or excavation to accomplish the work shown in the Plans and to those areas which must be entered to construct temporary or permanent structures. As soon as conditions permit, rivers, channels, streams and impoundments shall be promptly cleared of all obstructions placed therein or caused by construction operations.

Except as necessary for construction, excavated materials shall not be deposited in rivers, streams, canals or impoundments, or in a position close enough thereto to be washed away by high water or runoff.

The Contractor shall not disturb lands or waters outside the limits of construction except as may be found necessary and authorized by the Engineer.

The location of and methods of operation in all detention areas, borrow pits, material supply pits and disposal areas furnished by the Contractor shall meet the approval of the Engineer as being such that erosion during and after completion of the work will not likely result in detrimental siltation or water pollution.

The Contractor shall comply with the applicable provisions of the Hillsborough County Land Development Code concerning grading, filling, excavation, soil removal, and the like, as amended.

The Contractor shall schedule his operations such that the area of unprotected erodible earth exposed at any one time is not larger than the minimum area necessary for efficient construction operations; and the duration of exposed, uncompleted construction to the elements shall be as short as practicable.

Clearing and grubbing shall be so scheduled and performed that grading operations can follow immediately thereafter and grading operations shall be so scheduled and performed that permanent erosion control features can follow immediately thereafter if conditions on the project permit.

The Engineer may limit the surface areas of unprotected erodible earth exposed by clearing and grubbing, excavation or filling operations and may direct the Contractor to provide immediate erosion or pollution control measures to prevent siltation or contamination of any river, stream, channel, tidal waters, reservoir, canal or other impoundment or to prevent damage to the project or property outside the project right of way.

SP-23 Project Cleanup

Cleanup is extremely important and the Contractor will be responsible for keeping the construction site neat and clean with debris to be removed regularly as the work progresses.

SP-26 Surface Restoration

Where construction activities are conducted in existing grassed areas, the grassed areas shall be restored as specified or directed by sodding or grassing. Such restoration of grassed areas shall conform to the requirements of the Workmanship and Materials section headed "Lawn Replacement."

The Contractor shall replace or repair all ground surfaces damaged during construction. Any bushes, flowers, gardens, patios, or other landscaping and irrigation systems disturbed by the construction project shall be repaired or replaced by the Contractor. The cost of such ground surface repair shall be included in the various classified unit price Contract Items, or in the total Lump Sum Price, as applicable, and no separate payment will be made therefor.

Existing corrugated metal and concrete pipe culverts removed during the construction work shall be stored and maintained in sound, useful condition and replaced upon completion of the work. Culverts damaged by the Contractor shall be replaced with new culverts meeting the applicable requirements of the Standard Specifications for Road and Bridge Construction published by the Florida Department of Transportation. No separate payment will be made for replacement of damaged culverts.

SP-36 Fences

Temporary fences, where required, shall be "wood and wire fence" or other suitable fencing as approved by the Engineer.

Permanent fences shall be restored by the Contractor and shall be finished and installed so that the restoration is equal to the original. Only those portions of original fencing, or materials therefrom, that the Engineer approved for reuse shall be used by the Contractor in fence restoration. All other materials, including lumber, paint, creosote, concrete and metal products, shall be furnished by the Contractor.

The cost of temporary fences and permanent fence restoration shall be included under the various classified unit price Contract Items, or in the total Lump Sum Price, as applicable, and no separate payment will be made therefor.

SP-37 Data to be Submitted on Pipe

Within ten days after the date the Contractor is issued the Notice of Award and prior to his

entering into any subcontract for the manufacture or purchase of any pipe, the Contractor shall submit to the Engineer, in an amount equal to four (4) sets to be retained by the City plus the number of sets desired by the Contractor, the following information:

1. The name and address of the pipe manufacturer and the location of the plant at which the pipe will be manufactured.
2. A general description of and specifications for the pipe and pipe joints proposed.
3. Notarized certificates of manufacture for VCP, PVC, HDPE, and DIP stating conformance to applicable standards and specifications.
4. Any additional information that the Engineer may deem necessary in order to evaluate the qualifications of the manufacturer and to determine the suitability of the proposed pipe to meet the requirements of the Contract Documents.

The Contractor shall not enter into any subcontract for the furnishing of pipe until he has received the Engineer's approval, in writing, of the proposed manufacturer and pipe.

All pipe of specified classes and materials shall be of one kind and shall be produced by a single manufacturer.

SP-40 Concrete Requirements

Workmanship and Materials Section 345 shall apply to all concrete work, except that concrete work for sanitary sewer facilities shall comply with Workmanship and Materials Sections 4 and 5. Requirements for grout required for sealing well casings are specified in technical specification section 02677 Grout Seal.

SP-51 City Testing

The cost of retesting materials and/or workmanship, which has been initially tested by the City and found to be unacceptable, is to be borne by the Contractor.

SP-60 Contingency

The Contractor shall include a two hundred fifty thousand Dollar (\$250,000) contingency sum, to be included as part of the total bid amount for this contract. The contingency is for the purpose of compensating the Contractor for any incidental work that may arise as construction operations proceed and was not addressed as part of the original work portrayed in the Plans and Specifications.

The two hundred fifty thousand Dollar (\$250,000) contingency sum is an upset limit. Any amount of the contingency shall be paid only after negotiation.

SP-70 Electrical Equipment Certification

All equipment and materials shall be UL listed or listed and labeled as complying with the requirements of a Southern Building Code Congress International, Inc. (SBCCI) recognized testing laboratory, for the particular application, whenever available.

An electrical/mechanical system that is not available as a standard UL listed assembly (e.g. industrial equipment of unique configuration or custom design) shall be composed of listed components, whenever they are available, and constructed in accordance with the design documents, and the latest nationally recognized industry standards. The Contractor shall certify in writing that the equipment satisfies the above requirements and that it has been installed in compliance with the latest edition of the National Electrical Code (NEC) and Chapter 5 of the City of Tampa Code. The certification shall be submitted to the City's Electrical Inspection Bureau, with a copy sent to the Sanitary Sewer Department's Resident Engineer, prior to final inspection. A sample certification document is attached to these Specific Provisions as a formatting guide.

The Contractor shall secure all required permits and arrange for progress and final inspections as the work develops.

SP-71 Electrical Requirements

Electrical Work

Where definite requirements are not set forth in the Specifications, all electrical equipment, materials, and work under this Division shall comply with the requirements of the Occupational Safety and Health Act (OSHA) and shall be in accordance with applicable ANSI, IEEE, IPCEA, and NEMA standards. The work shall be performed in compliance with the latest edition of the National Electrical Code (NEC), all applicable state and municipal regulations and codes, and the service rules of the Tampa Electric Company, unless otherwise specified or directed. All equipment and materials shall be listed and labeled by a nationally recognized testing laboratory (NRTL) as required by the 2023 Florida Building Code, 8th edition. All custom control panels shall be assembled by a UL 508A certified panel shop and a UL label shall be applied to the finished product.

Electrician Qualifications

The Electrician performing the electrical work shall be licensed / certified in the State of Florida. The Electrician shall be thoroughly experienced with, and regularly engaged in, the demolition, installation, and trouble-shooting of industrial power systems with nominal system voltages of 240 through 13,200 volts. The Electrician shall provide the City with evidence demonstrating at least three (3) years of successful industrial power system installations. The provided industrial power system installations shall be of similar complexity, content and scope of the contract bid project. Electrician shall supply the City with references of industrial clients

that will attest to the Electrician's work experience and power system installations.

SP-72 Operation and Maintenance Manual, Submittals / Request for Information / Shop Drawings, and Asset Tracking Form

Operation and Maintenance Manuals

The Contractor shall prepare and submit to the Engineer four (4) hardcopies and one (1) high resolution color, bookmarked, and unsecured electronic portable document format (PDF) of an Operation and Maintenance Manual for all equipment and associated control systems furnished and installed under this Contract. Black and white copies will not be accepted. When the work reaches 75 to 80 percent completion, the Contractor shall submit to the Engineer for approval one (1) hardcopy and one (1) PDF electronic copy of the manual with all specified material that is available at that time. The submittal shall accompany the Contractor's partial payment request for the specified completion. Within 30 days after approval of the Engineer of the PDF submittal, the Contractor shall furnish to the Engineer four (4) hardcopies of the manual. Appropriate space shall be left in the manual for material not available at the time of submittal. All missing material for the manual shall be submitted prior to the request for final payment.

Also along with the missing material submitted with the request for final payment, one electronic copy (in pdf format) complete with all the missing material to be included in the earlier submitted hard copies shall be submitted. The manual shall be prepared and arranged as follows:

1. Space shall be provided in the manual for a reduced set of record Contract Drawings, size approximately 11 by 17 inches and folded to 8-1/2 by 11 inches. Drawings will be furnished by the Engineer.
2. One copy of all approved shop drawings and diagrams for all equipment furnished. The shop drawings and diagrams shall be reduced to either 8-1/2 by 11 inches or to 11 inches in the vertical dimension and as near as practicable to 17 inches in the horizontal dimension. Such sheets shall be folded to 8-1/2 by 11 inches.
3. One copy of manufacturer's operating, lubrication and maintenance instructions for all equipment and controls furnished. All equipment operating, lubrication and maintenance instruction and procedures shall be furnished on 8-1/2 by 11 inch commercially printed or typed forms. Such forms shall include equipment name, serial number and other identifying references.
4. One copy of manufacturer's spare parts list for all equipment furnished and prepared as specified in No. 3 above.
5. One valve schedule, giving the valve number, location, fluid and fluid destination for each valve installed and prepared as specified in No. 3 above. All valves in the same piping system shall be grouped together in the schedule. A sample of the valve numbering

system to be used will be furnished by the Engineer. Valve numbers may include three or four numerals and a letter.

6. List of electrical relay settings and control and alarm contact settings.

Each copy of the manual shall be assembled in one or more binders, each with title page, typed table of contents, and heavy section dividers with copper reinforced holes and numbered plastic index tabs. Each manual shall be divided into sections headed by the equipment specification section included in "Workmanship and Materials." Binders shall be 3-ring hard-back. All data shall be punched for binding and composition and printing shall be arranged so that punching does not obliterate any data. The cover and binding edge of each manual shall have the project title, Division designation and manual title printed thereon, all as furnished and approved by the Engineer.

Where more than one binder is required, they shall be labeled Vol. 1, Vol. 2, and so on. The table of contents for the entire set, identified by volume number, shall appear in each binder.

The four (4) hardcopies of the manuals and data included therein shall be provided in conformance with the subsection headed "Working Drawings" and, in addition, to the requirements of the General Provisions. The costs of the Operation and Maintenance Manual shall be included in the various Contract Items, or in the total Lump Sum Price, as applicable, and no separate payment will be made therefor.

Submittals / Request for Information / Shop Drawings

Contractor shall prepare and submit (1) high resolution color, bookmarked, and unsecured electronic portable document format (PDF) file for all Submittals, RFI, and Shop Drawings. The City will review the submittals and return PDF file of the marked up submittal to the contractor. The contractor shall have approved hard copies of all submittals at the job site. Each electronic submission must be in a high resolution color format and shall be original electronic documents from the manufacturer. Hardcopies shall be high quality printed in color. Scanned printouts or poor quality resolution PDF files will not be accepted.

Asset Tracking Form

The Asset Tracking Form (ATF) is a form that is intended to begin tracking assets and their respective preventative maintenance at an early stage in the project. The Contractor will be required to submit an electronic Asset Tracking Form for each piece of equipment. The information to be included on the form will include general information and specifications on the equipment such as, but not limited to, model, voltage, amperage, horsepower, material, manufacturer, serial number, recommended spare parts and preventative maintenance tasks.

During the preconstruction meeting of the project, the City will furnish the contractor with a blank electronic copy of the ATF in Microsoft Office 2016 and a preliminary list of equipment that will require an ATF. The City may provide the contractor a list of additional

equipment requiring an ATF as the project progresses.

The Contractor shall submit all ATF(s) after the project is substantially complete. The City prefers one submission of all ATF(s).

SP-73 Work Directive Change

A Work Directive Change is a written directive to the Contractor, issued on or after the date of the execution of the Agreement, and signed by the Engineer on behalf of the City, ordering an addition, deletion or revision in the work, or responding to an emergency. A Work Directive Change will not change the contract price or the time for completion, but is evidence that the parties expect that the change directed or documented by an Authorization to Proceed with Extra Work letter will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the contract price or the time for completion.

Without invalidating the Agreement, additions, deletions or revisions in the work may, at any time or from time to time, be authorized by a Change Order or a Work Directive Change. Upon receipt of any such document, the Contractor shall promptly proceed with the work involved.

SP-82 Access

GENERAL

Access to the site of the work shall be from Guy Verger Boulevard. The Contractor shall construct, as required for his purposes or as necessary, such temporary access roads between the public roads and the site as may be required for movement of heavy construction equipment and material delivery vehicles at locations approved by the Engineer.

Access facilities shall be adequate for equipment movement and shall provide for surface drainage. Areas used for temporary access, haul roads and access from public or plant roads shall be graded and restored to proposed site grade conditions, all to the satisfaction of the Engineer.

Access to existing plant roads by the Contractor will be restricted to those roads so designated. The Contractor will not be permitted to use any existing plant roads not designated for such use. All existing plant roads which are designated for use by the Contractor shall be maintained in serviceable condition by the Contractor during construction. Any damage to such roads caused by construction operations shall be promptly repaired to keep the road in serviceable condition. Any accumulations of soil, gravel or any other debris deposited on such plant roads as a result of construction operations shall be promptly removed by the Contractor to his own place of disposal.

Additionally, all existing plant roads which are designated for use by the Contractor shall be open at all times for unrestricted use by plant operations, maintenance and inspection service.

In NO case will the Contractor be permitted to use the monitored plant entrances for the passage of heavy construction equipment, concrete trucks or any other large vehicles.

PARKING

All employees of the Contractor shall park personal vehicles within the Contractor's storage and field office site. Contractor employees will not be permitted to drive personal vehicle onto the construction site. The Contractor shall provide transportation for all employees between the Contractor's storage and field office site and the work areas on the construction site.

IDENTIFICATION

The Contractor shall provide a Photo I.D. card for each employee. Each photo I.D. card shall be encapsulated in plastic and be provided with a clip for fastening to each employee's apparel. Each photo I.D. card shall be approximately 2 inches by 3 inches in size and shall include the following:

1. Employee photograph mounted on the left half of the card.
2. Name of employee and name of Contractor located on the right half of the card. Each employee shall display the photo I.D. card on outer apparel at all times when on the plant site.

Any person found on the site without the required photo I.D. card will be directed to leave the site immediately.

The cost of construction, modification, maintenance, removal and restoration of all access facilities, and existing plant roads including excavation, backfilling, select fill material, paving material, grading, drainage and other such work, and all costs associated with limited access to the site, employee parking and transportation and photo I.D. cards, except as specified otherwise shall be included in the lump sum Contract Item for Structures and Equipment and no separate payment will be made therefor.

SP-84 Piping and Equipment Identification

All piping and equipment shall be identified as follows:

1. All painted piping and equipment shall be color coded. Such coding on pipelines shall include painted or plastic tape banding at 10-foot intervals. The Engineer will select the colors. Underground pipelines with plastic tape wrapping shall be wrapped with colored tape and include additional colored bands as directed. Polyethylene or hot bituminous wrapped underground pipelines shall have plastic tape bands. Polyethylene wrapping for ductile iron sewage or force main piping shall be green. Tape bands shall be placed at 10-foot intervals and all colors shall be selected by the Engineer.
2. All equipment and slide gates shall have an identification nameplate. The nameplates shall be of Type 304 stainless steel, No. 6 finish, not less than No. 16 gauge with indented stamped

lettering. Nameplates shall be attached to equipment bases in accessible locations. Nameplates shall be fastened, in a permanent manner arranged not to damage equipment, with not less than four stainless steel fasteners. All nameplates shall be of the same size (approximately 3- by 8-inch) and shall conform to the following standard description:

ASSET DESCRIPTION	(Line 1)
ASSET / EQUIPMENT ID	(Line 2)
CURRENT LOCATION ID	(Line 3)

Lettering shall be block style in size and spacing to suit the nameplate. A sample nameplate including fastenings shall be submitted to the Engineer for approval prior to manufacture of any of the nameplates. Stainless steel identification nameplates shall not be painted.

3. Piping shall be identified with a designation and directional flow arrow. The designation will be furnished by the Engineer. The designation will comprise a maximum of 20 letters. The designations and flow arrows shall be painted on after completion of color coding using suitable stencils and colors. Designations and flow arrows shall be arranged to be clearly in view from the normal operating or access space all as directed and approved by the Engineer. Designations and flow arrows shall be located along straight runs at 10-foot intervals, near valves, branches and junction points, and where pipes pass through walls or ceilings. Underground piping wrapped with polyethylene shall be provided with colored material selected by the Engineer.

The cost of piping and equipment identification shall be included in the various Contract Items, or in the total Lump Sum Price, as applicable, and no separate payment will be made therefor.

SP-85 Storage of Materials

The Contractor may not use that portion of the right-of-way located between the existing/proposed curb lines or existing/proposed edges of pavement to store pipe, structures, materials, surplus excavated fill, or equipment other than that used for excavating or dewatering. The Contractor may use that portion of the right-of-way behind the existing or proposed curb line or off the edge of pavement for storage provided that this use does not obstruct pedestrian or vehicular traffic and conforms to the City's Tree Ordinance. If the area behind the curb line/off the edge of pavement is insufficient in size to accommodate the Contractor's storage needs, the Contractor is required to secure the use of a vacant parcel of land for use as a storage site for the duration of this project. Upon completion of the project, all storage areas will be restored to a condition which meets or exceeds the pre-construction condition of the storage area. Payment for use and restoration of storage areas will be included in the appropriate lump sum pay items and unless the area is within the pipeline pay limits, no separate payment will be made therefor.

SP-87. Use of Site for Storage and Field Office

Space, on the site, for storage and field office for the Contractor shall be as directed by the

Engineer. Any structures or facilities needed for storage or field office shall be constructed by the Contractor at his own expense and no separate payment will be made therefor. All security requirements for such facilities shall be provided and maintained by the Contractor.

Upon completion of the work, and as directed, the Contractor shall clean up the areas, remove any temporary facilities and finish grade as necessary, all as approved.

SP-91 Project Photographs

The Contractor will not be required to furnish photographs of the project; however, the Engineer may or may not take photographs of the area immediately prior to and after completion of the construction for record and information. To assure that there will not be any conflict with this photography, the Contractor shall not perform clearing operations or action which will disturb any street or area within the project until the Engineer has been advised thereof and has had adequate opportunity to perform the desired photography.

SP-92 Project Videotaping

The Contractor shall submit to the Engineer for approval prior to commencing work a continuous color videotape recording complete coverage of pre-construction conditions of all surface features within the construction's zone of influence, simultaneously produced audio commentary and electronic display of time and date. Unless otherwise indicated, both sides of street/right-of-way shall be covered one side at a time. The videotape recording shall be sufficient to fulfill the technical and forensic requirements of the project and professionally produced by a firm regularly engaged in the business of construction video documentation, shall provide continuous unedited coverage, establishing locations and viewer orientation with clear, bright, steady and sharp video images with accurate colors free of distortion or other imperfections.

SP-97 Protection of Existing Building

The Contractor shall protect the existing buildings as indicated on the Plans.

The Contractor shall hire a certified testing company to monitor vibration levels at buildings while construction takes place in the vicinity.

All costs associated with protection of the facilities and vibration monitoring services shall be included in the price of the work to which they are incidental.

SP-98 Valves

Valves shall be handled with care to avoid damage. All valves shall be loaded and unloaded by lifting, and under no circumstances shall valves be dropped, skidded, or rolled. Valves shall not be placed, under any circumstances, against pipe or other fittings in such a manner that damage could result. Slings, hooks or tongs used for lifting shall be padded in such a manner as to prevent damage. If any part of the valves' coating and lining is damaged by the Contractor, the repair and

replacement shall be made by the Contractor at his expense in manner satisfactory to the Engineer before installing. Valves shall also be stored at all times in a safe manner to prevent damage and kept free of dirt, mud or other foreign matter. All valve gaskets shall be stored and placed in a cool location out of direct sunlight and out of contact with petroleum products. All gaskets shall be used on a first-in, first-out basis.

Gate valves and butterfly valves shall be set and joined to new pipe in a manner heretofore specified for cleaning, laying and joining pipe. Valves shall be installed such that the operating nut is plumb.

The work shall include all labor, materials, equipment, tools and any incidentals required for the completion of the work.

Payment for valves shall be included in the price of the work to which the valves are incidental.

SP-128 Spare Parts and Special Tools

Spare parts and special tools shall be furnished in accordance with the requirements of the Workmanship and Materials and General Provisions sections. All such items shall be boxed and tagged and clearly marked for identification as to description and their location in the equipment.

The Contractor shall provide an enclosed weatherproof and lighted facility for spare parts and special tools for storage during the construction period. Immediately prior to final inspection of the work, the Contractor shall arrange for delivery of these items to the Engineer. On delivery, the Contractor shall provide the Engineer with an itemized list of each spare part or special tool and the list shall match the identification tag attached to each item. At this time, the Engineer shall inventory the spare parts and special tools. If the inventory is not complete or some items are damaged, the Contractor shall provide the missing items and replace damaged items. No spare parts or special tools will be accepted by the Engineer until notice of final inspection unless the Engineer expressly requests the advance delivery of items. When so requested, the Contractor shall deliver such items to the Engineer. Items delivered in advance shall be deducted from the inventory and the Contractor shall furnish the Engineer's signed receipts, for items delivered in advance, with the final inventory list. Spare parts and special tools stored by the Contractor shall be and remain his responsibility until acceptance by the Engineer. The Contractor shall deliver all items to a location on the Howard F. Curren Advanced Wastewater Treatment Plant site as directed by the Engineer. The cost of all spare parts and special tools and the storage and delivery thereof shall be included in the various Contract Items, or in the total Lump Sum Price, as applicable, and no separate payment will be made therefor.

SP-129 As-Built Plans

During manufacture and construction, installation and testing, records shall be kept of any changes or adjustments made in the work. All such changes shall be incorporated in the "As-Built"

plans, shown in red.

The Contractor shall provide the City of Tampa with one (1) hardcopy and (1) electronic high resolution unsecured color PDF copy set of "As-Built" plans along with the supporting survey data and CAD files if available. The survey shall be signed and sealed by a licensed Land Surveyor registered with the Florida Department Board of Professional Surveyors and Mappers. Plan sheets shall have all deviations from original design annotated in red to clearly show as-built conditions. Relocation of existing facilities and utilities must be clearly noted and their location identified by station, offset and elevation, when performed by the Contractor.

As-builts shall clearly show installed horizontal and vertical location of all bends & fittings, valves, solid sleeves, hot tap sleeves & valves, lines stop tees permanently capped and left in active pipe, air release valve tap & valve boxes, tees, wyes, horizontal & vertical points of inflection, limits of removed pipes, limits of grouted pipes and limits of concrete encasements. Elevation deviations from the plans shall also be noted. If available, the Contractor shall provide the City with the Surveyor's electronic CAD file of the as-built locations.

Where applicable, As-builts shall conform to the "Record Drawing Requirements" section found in the City of Tampa Wastewater Department Technical Standards Guidelines for Construction of Wastewater Facilities (latest version). A copy of this standard can be found online on the City's Wastewater website.

All relocation of structures and pipelines must be clearly shown on Plans with as-built stations and offsets verified. All as-built inverts for the entire project must be clearly noted on plan sheets. No separate payment shall be made for this work.

All as-built plans shall be submitted within seven (7) calendar days of the final inspection. The final payment will not be issued until the as-built plans have been submitted to, and accepted by the City. Upon request by the Contractor, the City will provide AutoCAD drawings when available.

SP-130 SAFETY:

A. Responsibility: Employees shall immediately report any unsafe work practice or unsafe condition to their supervisor(s). The Contractor is solely responsible for the safety of their workers, and shall comply with all applicable requirements [i.e.: 29 CFR 1910 -Occupational Safety and Health Standards, 29 CFR 1926 - Safety and Health Regulations for Construction, etc.] and industry safety standards while at the work site. The fact that City personnel may bring unsafe conditions to the attention of any member of the Contractors work force does not relieve the Contractor of this responsibility.

Suggest, all Contractors employees and sub-contractors be given a copy of SP-130.

The Contractor shall have a designated Safety Officer within his organization. At the Pre-Construction meeting, the Contractor shall provide the name and contact information of the Safety Officer to the Engineer.

At the Pre-Construction meeting, the Contractor will be given pertinent safety related information, necessary forms and instructions (i.e.: AWTP Lockout/Tagout Procedures, AWTP Hot Work Permits, etc) that pertain to any work that might be utilized during the contract. The Contractor shall be responsible to disseminate that information to their employees and sub-contractors. Special care shall be taken by the Contractor to ensure that any new employee or sub-contractor to the work site shall be briefed on these safety instructions.

If warranted by the project and directed by the Engineer, the Contractor shall develop and implement a comprehensive health and safety plan for their employees that will cover all aspects of onsite construction operations and activities associated with the contract. This plan must comply with all applicable health and safety regulations and any project specific requirements that the contract has specified.

B. Incident Reporting: All accidents that result in personal injury, illness or property damage shall be immediately reported and investigated, regardless of the extent of injury, illness or property damage. Employees must report accidents within one hour (or as soon as practical) from the time of occurrence to their immediate supervisor who in turn will report it to the City's inspector. The City inspector will record the incident in their daily report and report it to the Risk Management Division (274-5708).

C. Air-Borne Debris: All personnel in close proximity to drilling, sawing, sanding, scraping, spraying, power-washing or other work being done, either in enclosed spaces or in the open, that creates dust or air-borne debris shall wear eye protection [29 CFR 1910.133] and a respirator [29 CFR 1910.134].

D. Hot Work: All welding, soldering, brazing, acetylene cutting or any other work at the AWTP or any pump station; that produces high temperatures shall require a AWTP "Hot Work Permit" and may require one or more fire watches. The number and location of fire watches (if any) shall be a condition of the Hot Work Permit. A current, portable, fully charged fire extinguisher shall be located with each person performing hot work and each fire watch. The Hot Work Permit shall be signed off by the appropriate personnel and maintained in the project file.

E. Confined Spaces: OSHA defines a confined space as having limited or restricted means for entry or exit, and is not designed for continuous employee occupancy. Confined spaces include, but are not limited to: vaults, tanks, manholes, wet-wells, pipelines, utility tunnels, etc.

The Contractor shall take measures [29 CFR 1910.146 (c)(5)] to ensure that atmospheric conditions in confined spaces are not hazardous to occupants. This can be accomplished by forcing a sufficient amount of clean air through the confined space and testing the atmosphere by using a portable certified, calibrated, atmosphere monitor that meets OSHA requirements [29 CFR 1910.146(c)(5)(ii)(C)]. The atmosphere monitor should record oxygen content, flammable gases and vapors and toxic air contaminants, such as the Industrial Scientific TMX-412.

F. Air-Borne Gases: The AWTP is located in an industrial area and as such there are several different substances, either on or off site, that can escape and become dangerous fumes such as: chlorine, methanol, anhydrous ammonia, etc. The AWTP currently has nine (9) Shelter In Place (SIP) locations that are designated as safe havens in the event of release of hazardous gases. These SIP's are stocked with necessary instructions and supplies to protect City and any Contractor's personnel.

The first day on site, City personnel will show all the Contractor's personnel present where the several closest SIP's are located, explain the alarm signals and provide the current alarm testing schedule. It shall be the Contractor's responsibility to show any future employee and/or sub-contractor that comes on site the location of the SIP's and explain the alarm signals.

In the event of an alarm, the Contractor's personnel shall immediately and hastily proceed to the nearest SIP along with the City personnel and remain there until further notice, taking guidance from and following the instruction of the senior City employee present.

G. Lockout / Tagout Policy: The AWTP Lockout / Tagout program is designed to set standards to help safeguard all employees from hazardous electrical or mechanical energy while they are performing service or maintenance on machines and equipment at the AWTP or any pump station. This program will also identify the practices and procedures to shut down and Lockout or Tagout machines and equipment. The Contractor shall be given a copy of the AWTP "LOCKOUT / TAGOUT POLICY AND PROCEDURES" instruction and shall make all of his employees and sub-contractors aware of this program.

No padlock (lockout) shall be removed except by the individual that installed it or if not available, by a City of Tampa AWTP team leader.

No tag (tagout) shall be removed except by the individual that installed it or if not available, by a City of Tampa AWTP team leader, except in an Emergency and the tag states "Do Not Use Unless in an Emergency". In that event, the Contractor shall notify the City of Tampa AWTP team leader, who will prepare the necessary follow up report.

H. Trench Safety: Any excavation deeper than four (4) feet shall adhere to the requirements contained in 29 CFR 1926.650 thru 652 and the Florida Trench Safety Act [Florida Statutes, ss 553.60 - 553.64].

I. Open Flames: No fires shall be allowed. No open flames necessary for any construction activity shall ever be left un-attended. A current, portable, fully charged fire extinguisher shall be located with each activity requiring an open flame.

J. Sparks: Any activity lasting more than 10 continuous minutes, that creates sparks, such as grinding or chipping shall have a dedicated fire watch in attendance. A current, portable, fully charged fire extinguisher shall be located with each activity creating sparks, regardless if a fire watch is required or not.

K. First Aid: The Contractor shall furnish appropriate First Aid Kits [29 CFR 1910.151] and shall be responsible to ensure his employees are properly trained to render first aid. If injurious corrosive materials are to be utilized, eye wash and body wash facilities must be provided in the immediate area.

L. Related Costs: All costs associated with these or any safety measures shall be included in the total lump sum contract price or the various contract item unit prices, as applicable, and no separate payment shall be made thereof.

SP-133 Tampa Port Authority Access and Treatment Plant Access

The Tampa Port Authority has restricted access in accordance with Florida Statute 311.12. Refer to the Tampa Port Authority's website for procedures on gaining access to the port. All personnel assigned to provide this service or required to deliver goods to the Port of Tampa, if applicable in this award, shall obtain a Port Pass. To obtain this port pass will require each employee to have a valid photo ID. It is the responsibility of the Awardee to obtain Port Passes before work begins or prior to delivery. Each employee shall display the identification card on outer apparel at all times when on the AWT Plant site. Any person found on the site without the required identification card will be directed to leave the site immediately. The time and cost associated with acquiring this ID shall be the Awardee's responsibility.

Documentation, pricing and other information related to the access requirements for the Port of Tampa can be found at: <http://www.tampaport.com/Port-Operations/Security>. All costs to comply with these procedures shall be included in the total Price for this project, and no separate payment shall be made therefore.

Wastewater Emergency Response Plan (ERP). The City has developed procedures to help protect the lives and health of all personnel working at the Wastewater facility in the event of an emergency. Everbridge is the software product and primary communication tool that is part of the Department's ERP. This product will be used to register daily visitors and contractors to Wastewater Departmental Facilities here at the Port and to send emergency notifications (via text or cell phone) in the event of an emergency.

Awardee will be required to provide a list of all employees who will be assigned to perform the services detailed in this bid document, including each employee's cell phone number, at least 24 hours prior to arrival to the City Inspector overseeing the services. The employee list must be maintained throughout the award and updated as needed.

Awardee must agree to attend various levels of safety awareness training as determined by the AWTP Safety Specialist.

AWTP Access. Upon entering and departing the AWT Plant, the lead on-site representative of the Awardee shall physically check in at the AWTP Administration Building, AWTP Maintenance Building or AWTP Operations Building. The lead on-site representative of the Awardee must inform the AWTP representatives which Awardee employees are on-site, including start and stop times. These hours must match the hours reflected on the invoices submitted by the Awardee for acceptance.

WW-Collection Access. Upon entering and departing the Wastewater Collection area (WWC), the lead on-site representative of the Awardee shall physically check in with the WWC main dispatch area. The lead on-site representative of the Awardee must inform the WWC representatives which Awardee employees are on-site, including start and stop times. These hours must match the hours reflected on the invoices submitted by the Awardee for acceptance.

TECHNICAL SPECIFICATIONS
DRAFT SUBMITAL

FOR

City of Tampa HFCAWTP
Recharge Wells

Tampa, FLORIDA

PROJECT # 26-C-00024

August 2026 (Bid Documents)

PROJECT OWNER:

City of Tampa
CONTRACT ADMINISTRATION DEPARTMENT
TAMPA MUNICIPAL OFFICE BUILDING
306 E. JACKSON STREET - 4TH FLOOR NORTH TAMPA, FLORIDA 33602



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DIVISION 1

GENERAL REQUIREMENTS

SECTION 01010
SUMMARY OF WORK

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS/REQUIREMENTS INCLUDED

A. Work Included: This section describes the work to be performed under this Contract. Detailed requirements and extent of work are stated in applicable Specification sections and shown on the Drawings.

1. The project includes up to five recharge wells, RW-1 through RW-5, and up to five monitoring wells MW-1 through MW-5. Phase I of the project will include RW-1 and MW-1 that will be drilled first. If the necessary conditions for aquifer recharge below the base of the Underground Source of Drinking Water (USDW) are confirmed during the drilling and testing of RW-1 and MW-1, Phase II will be authorized which will include the drilling of RW-2, RW-3, RW-4, and RW-5 and MW-2, MW-3, MW-4 and MW-5. RW-1 will be drilled to a depth of approximately 1,200 feet below land surface (BLS). The well will be completed as an aquifer recharge well (RW). The recharge well will be completed with a monitoring well (MW-1) to monitor the base of the USDW. Phase I of the project will generally provide the City with the following:
 - a) One 24-inch nominal diameter recharge well, RW-1 (Total Depth [TD] approximately 1,200 feet). The well will be completed with a 24-inch final carbon steel casing set to approximately 650 feet BLS and cemented to land surface and designed for recharge of reclaimed water. The well will include a temporary wellhead assembly as shown on the contract drawings.
 - b) One 8.625-inch nominal diameter monitor well, MW-1 (Total Depth [TD] up to 400 feet). The well will be completed with an 8.625-inch final FRP casing set to approximately 350 feet BLS and cemented to land surface. The monitoring well will include a temporary wellhead assembly as shown on the contract drawings.
 - c) Four (eight total) 2-inch diameter Pad Monitoring Wells (PMW) around the temporary drilling pads for RW-1 and MW-1 (TD approximately 20 feet). The number of PMWs may be reduced if approved by FDEP.

2. Depending on the results of RW-1, the City may authorize Phase II which will include the drilling of an additional four recharge wells (RW-2, RW-3, RW-4, and RW-5) and an additional four monitoring wells (MW-2, MW-3, MW-4, and MW-5) and associated pad monitoring wells. These wells will have similar completions as RW-1 and MW-1.
- B. The CONTRACTOR shall furnish all shop drawings, working drawings, labor, materials, equipment, tools, services, and incidentals necessary to complete all work required by these Specifications and as shown on the Contract Drawings.
 - C. The CONTRACTOR shall perform the work as specified herein, in place and ready for continuous service and shall include any repairs, replacements, and/or restoration required as a result of damages caused prior to acceptance by the City.
 - D. The CONTRACTOR shall furnish and install all materials, equipment and labor which is necessary for the proper completion of the work, whether specifically indicated in the Contract Documents or not.
 - E. The City reserves the right to not proceed with Phase II of the Contract if conditions are not suitable for aquifer recharge as determined by drilling and testing of RW-1.
 - F. The work schedule will be proposed by CONTRACTOR. A work schedule of 24 hours per day, 7 days per week (excluding holidays), or similar schedule, will be permitted and is anticipated to be necessary to meet the completion timeline for the project.
 - G. Following confirmation of appropriate geologic conditions during drilling and testing of RW-1 and MW-1, additional wells under Phase II of the project may be authorized by the City. Multiple rigs can be utilized to complete the remaining wells. The CONTRACTOR will be notified of authorization to construct additional wells within 7 days of the completion of the injection test at RW-1.
 - H. Utility locates and soft digs are required at each drilling site prior to commencement of drilling in accordance with the Specific Provisions. The Contractor will be responsible for locating and protecting adjacent utilities and facilities during the project.

- I. CONTRACTOR shall, except as otherwise specifically stated in applicable parts of these Contract Documents, provide and pay for labor, materials, equipment, tools, construction equipment, facilities, and services necessary for proper execution, testing, and completion of the work.
- J. Throughout these Specifications, the term ENGINEER shall also mean Geologist Consultant representing the Owner.
- K. Work Parts include the following:
 - 1. Phase I: Recharge Well (RW-1) and Monitoring Well (MW-1) and associated pad monitoring wells
 - 2. Phase II: Recharge Wells (RW-2, RW-3, RW-4, and RW-5) and Monitoring Wells (MW-2, MW-3, MW-4, and MW-5) and associated pad monitoring wells
- L. List of Drawings:

Drawing No.	Drawing Title
1	Location Map
2	Site Plan
3	Pad Monitoring Well Detail
4	Recharge Well (RW-1) and Monitoring Well (MW-1) Completion
5	Temporary Recharge Well Wellhead Completion Details
6	Temporary Monitor Well Wellhead Completion Details
7	Temporary Setup for Acidization

1.02 WORK SEQUENCE

- A. The sequence of operations will be generally as outlined in Part 3 Execution contained at the end of this section.
- B. All work done under this Contract shall be done with a minimum of inconvenience to the users of the system or facility. The CONTRACTOR shall coordinate his work with private property owners such that existing utility services are maintained to all users to the maximum extent if possible.
- C. The CONTRACTOR shall, if necessary and feasible, construct the work in stages to accommodate the City's use of the premises during the

construction period; coordinate the construction schedule and operations with the City's Representative.

- D. The CONTRACTOR shall, where feasible, construct the Work in stages to provide for public convenience and not close off public use of any facility until completion of construction to provide alternative usage.

1.03 CONSTRUCTION AREAS

- A. The CONTRACTOR's work area and areas for material and equipment storage shall be contained within the construction limits shown on the site plans provided in the contract drawings.
- B. Coordinate use of work site under direction of the City's Representative.
- C. Assume full responsibility for the protection and safekeeping of products under this Contract, stored on the site.
- D. Move any stored products under the CONTRACTOR's control, which interfere with operations of the City or separate CONTRACTOR.
- E. Obtain and pay for the use of additional storage of work areas needed for CONTRACTOR operations.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

- A. Site proposed recharge wells and associated monitoring wells at approved location as shown on Drawing No. 2. The exact well locations may be altered by the City but will remain within the property outlined in the Drawing.
- B. CONTRACTOR shall submit cuttings disposal plan to FDEP for approval. Approval must be received prior to initiating any drilling activities. CONTRACTOR shall also provide specific drilling pad dimensions and design drawings for FDEP approval prior to initiating drilling activities.
- C. Install four shallow surficial aquifer temporary pad monitor wells around the drilling pads as required and sample for FDEP required parameters weekly during well construction. Baseline sampling results shall be submitted to FDEP prior to any drilling for the respective wells.

- D. Control any potential artesian flowing zones by drilling with a containment system using closed circulation reverse-air drilling methods. A Washington Rotating Head, or comparable flow prevention device will be required to control flow from the well under positive head conditions. CONTRACTOR shall be prepared to kill well with barite or salt if necessary.
- E. Record drilling information during all pilot hole drilling, including penetration rate, voids, water producing zones, etc., in daily reports prepared during all drilling activities. ENGINEER's resident inspector and CONTRACTOR shall prepare independent daily reports, which will be submitted weekly throughout the drilling period to the FDEP along with a brief summary of the week's activities.
- F. Run a mechanical drift indicator in pilot holes and reamed holes at intervals not greater than 90 feet. Tool scale shall clearly delineate 10 minutes or less. Any deviation in plumbness greater than 1 degree shall be corrected by the drilling CONTRACTOR at its own expense.

3.02 RECHARGE WELL RW-1 CONSTRUCTION

- A. Construct a lined temporary drilling pad to contain all fluids during drilling operations. Install pad monitoring wells at each of the four corners of the drilling site as approved by FDEP and monitor the four wells throughout the drilling and testing period in accordance with the FDEP permit requirements.
- B. Install a 48-inch diameter pit casing through unconsolidated surficial deposits. The depth of the pit casing will be determined by the CONTRACTOR (expected to be approximately 50 feet in depth). The vibratory casing installation method shall not be used.
- C. Drill nominal 8-inch to 12-inch diameter pilot hole to a depth of approximately 200 feet BLS using standard mud rotary drilling techniques. The goal of this pilot hole will be to penetrate the freshwater aquifer units and clay lithology within the Hawthorn Group to the Suwannee Limestone. Collect drill cuttings/samples every 10 feet to the total depth of the well and describe visually in a lithologic log. Include hydrogeologic-related information as applicable.
- D. Record drilling information during all pilot-hole drilling, including penetration rate, voids, water producing zones, etc., in daily reports prepared during all drilling activities. ENGINEER's resident inspector and CONTRACTOR shall

prepare independent daily reports, which will be submitted weekly throughout the drilling period to the FDEP along with a brief summary of the week's activities.

- E. Perform geophysical logging in accordance with Section 02679, Geophysical Logging.
- F. Ream pilot hole to nominal 47-inch diameter borehole to a depth of approximately 200 feet. Perform geophysical logging in accordance with Section 02679, Geophysical Logging.
- G. Set and cement nominal 42-inch diameter surface casing to approximately 200 feet BLS. Section 02674, Casing, provides a summary of the casing specifications for the well.
- H. A mechanical drift indicator shall be run in pilot holes and reamed holes at intervals not greater than 90 feet. Tool scale shall clearly delineate 10 minutes or less. Any deviation in plumbness greater than 1 degree shall be corrected by the drilling Contractor at its own expense.
- I. Drill nominal 8-inch to 12-inch diameter pilot hole to a depth of approximately 450 feet BLS using standard reverse-air drilling techniques. The goal of this pilot hole will be to penetrate the Ocala confining unit and identify the depth of the 10,000 mg/L total dissolved solids isopleth.
- J. During reverse-air drilling activities, collect water samples (Section 02311, Table 02311-1, List A) at every other drill rod connection (approximately every 90 feet) during pilot hole drilling (approximately 200 to 450 feet). Collect drill cuttings/samples every 10 feet to the total depth of the well and describe visually in a lithologic log. Include hydrogeologic-related information as applicable. Perform short-term drill stem specific capacity tests at every other drilling rod connection that includes a water sampling event (approximately every 90 feet).
- K. During pilot-hole advancement, collect up to two (2) 4-inch diameter, 10-foot length core sections at depths approved by the on-site ENGINEER's representative. Cores will target potential confining intervals within the top of the Ocala Limestone. Cores will be shipped to a core laboratory for hydraulic testing of the core confining properties.

- L. Conduct geophysical logging on pilot hole in accordance with Section 02679, Geophysical Logging.
- M. Conduct up to four (4) straddle packer or off-bottom packer tests within this interval. Collect hydraulic data and water quality data during the packer testing. The goal of these packer tests will be to characterize hydrogeologic properties, identify the depth of the 10,000 mg/L TDS transition, and determine the intermediate casing setting depth and appropriate monitoring interval. Two separate tests may be run at each packer test setting depth, testing the packer interval and above the top packer (annulus). At the end of each packer test collect quality water quality samples in accordance with Section 02311, Table 02311-1, List B.
- N. Submit hydrogeologic data to ENGINEER's representative for preparation of request to FDEP for a proposed intermediate casing setting depth. Upon approval from FDEP, plug back pilot hole with cement with 8% bentonite gel mixture. Ream pilot hole to a nominal 41-inch borehole to approximately 450 feet BLS.
- O. Conduct geophysical logging of the reamed hole in accordance with Section 02679, Geophysical Logging.
- P. Set and cement nominal 34-inch diameter surface casing to approximately 450 feet BLS, the anticipated base of the USDW. Section 02674, Casing, provides a summary of the casing specifications for the well.
- Q. Drill a nominal 8-inch to 12-inch diameter pilot hole to the total depth of this well, approximately 1,300 feet BLS, using standard reverse-air drilling techniques. The goal of the pilot hole will be to characterize the confining properties of the Ocala Limestone and define the hydraulic properties of the Avon Park high-permeable zone (APHPZ), the targeted recharge zone.
- R. During reverse-air drilling activities, collect water samples (Section 02311, Table 02311-1, List A) at every other drill rod connection (approximately every 90 feet) during pilot-hole drilling (approximately 450 to 1,300 feet). Collect drill cuttings/samples every 10 feet to the total depth of the well and describe visually in a lithologic log. Include hydrogeologic-related information as applicable. Perform short-term drill stem specific capacity tests at every other drilling rod connection that includes a water sampling event (approximately every 90 feet).

- S. During pilot-hole advancement, collect up to three (3) 4-inch diameter, 10-foot length core sections at depths approved by the on-site ENGINEER's representative. Cores will target potential confining intervals above the proposed injection zone from approximately 450 feet to 650 feet BLS. Cores will be shipped by the Contractor to a core laboratory for hydraulic testing of the core confining properties.
- T. Upon traversing the entirety of the APHPZ and penetrating the middle confining unit (MCU), perform geophysical logging under static and dynamic conditions in the open borehole in accordance with Section 02679, Geophysical Logging, to the total depth of the pilot hole estimated to be 1,300 feet BLS.
- U. Complete up to four (4) straddle packer or off-bottom packer tests within this interval. Collect hydraulic data and water quality data during the packer testing. The goal of these packer tests will be to evaluate hydraulic characteristics of the proposed recharge interval, define ambient groundwater quality, and to confirm confining properties across lower permeability intervals overlying the recharge zone. Two separate tests may be run at each packer test setting depth, testing the packer interval and above the top packer (annulus). At the end of each packer test collect quality water quality samples in accordance with Section 02311, Table 02311-1, List B.
- V. Back plug the confining interval from 1,300 feet BLS to approximately 1,200 feet BLS with cement with 8% bentonite gel mixture.
- W. If the data confirm the presence of an adequate recharge zone, ENGINEER will propose a final casing setting depth to the FDEP. Following acceptance from FDEP, install a drillable bridge plug and plug back pilot hole with cement with 8% bentonite gel mixture through the Ocala Limestone, the confining interval above the APHPZ and complete well as described below and as shown in Drawing No. 4.
- X. Ream pilot hole to nominal 33 inches in diameter to a depth of approximately 650 feet BLS using reverse-air closed circulation drilling techniques. Perform logging in accordance with Section 02679, Geophysical Logging.
- Y. Set and cement nominal 24-inch diameter final casing to approximately 650 feet BLS. Section 02674 provides a summary of the casing specifications for

the well. Run temperature survey following each cementing stage to confirm cement fill in the annulus.

- Z. Complete pressure test on 24-inch diameter final casing in accordance with Section 02575 Mechanical Integrity Test. The pressure test will utilize either the cement seal from pressure grouting the casing, or a packer set at the base of the final casing. Pressurize casing to 1.5 times the anticipated maximum necessary injection pressure in the well. The pressure test is estimated to be run at approximately 150 psi. The pressure test will be deemed successful if the pressure change is within plus or minus 5 percent of the starting pressure after one hour of testing. Repeat pressure test, as necessary, until pressure test is deemed successful.
- AA. Drill out open-hole interval to approximately 1,200 feet BLS to a nominal 23-inches in diameter.
- BB. Develop open-hole interval using air-lift well development practices. Develop until clear water is produced from the well and until water quality is acceptable to onsite ENGINEER. Collect one water sample in accordance with Section 02311, Table 02311-1, List C at the end of the development period to establish background water quality of the recharge zone.
- CC. Complete a short pumping test on the finished well in accordance with Section 02681. CONTRACTOR will be required to have 100,000 gallons of storage on site. CONTRACTOR will conduct a pump-out test at 1-2 million gallons per day (mgd).
- DD. Perform geophysical logging in accordance with Table 02679-1. Run video log to total depth of well. Perform external Mechanical Integrity Test (MIT) including Radioactive Tracer Survey (RTS) as specified in Section 02575 Mechanical Integrity Test.
- EE. Complete temporary wellhead at RW-1 as shown in Drawing No. 5.
- FF. Upon completion of monitor well MW-1, conduct 12-hour injection test using reclaimed water from the chlorine contact chamber. Provide and install pumps, piping, flow meter, and water level transducers to pump at rates up to 10,500 gallons per minute (gpm) or 15 mgd.
- GG. Demobilize all equipment from the site and restore site to original condition.

3.03 CONSTRUCT MONITOR WELL MW-1

- A. Locate monitoring well (MW-1). The proposed location of MW-1 is shown on Drawing No. 2. The goal for this well will be to monitor the base of the USDW overlying the recharge zone. Section 02674 Casing provides a summary of the casing specifications for MW-1.
- B. Construct a lined temporary drilling pad to contain all fluids during drilling operations. Construct pad monitoring wells at locations approved by FDEP and monitor in accordance with the requirements of the FDEP well construction permit. Two pad monitoring wells may be coupled with two wells from the recharge well if authorized by FDEP.
- C. Install a 24-inch diameter pit casing through unconsolidated surficial deposits. The depth of pit casing will be determined by the CONTRACTOR. The vibratory casing installation method shall not be used. Section 02674 Casing provides a summary of the casing specifications. Drawing No. 4 shows the completion details for the monitoring well.
- D. Drill nominal 8-inch to 12-inch diameter pilot hole to a depth of approximately 200 feet BLS using standard mud rotary drilling techniques. The goal of this pilot hole will be to penetrate the freshwater aquifer units and clay lithology within the Hawthorn Group to the Suwannee Limestone. Collect drill cuttings/samples every 10 feet to the total depth of the well and describe visually in a lithologic log. Include hydrogeologic-related information as applicable.
- E. Record drilling information during all pilot-hole drilling, including penetration rate, voids, water producing zones, etc., in daily reports prepared during all drilling activities. ENGINEER's resident inspector and CONTRACTOR shall prepare independent daily reports, which will be submitted weekly throughout the drilling period to the FDEP along with a brief summary of the week's activities. Perform geophysical logging in accordance with Section 02679, Geophysical Logging.
- F. A mechanical drift indicator shall be run in pilot holes and reamed holes at intervals not greater than 90 feet. Tool scale shall clearly delineate 10 minutes or less. Any deviation in plumbness greater than 1 degree shall be corrected by the drilling CONTRACTOR at its own expense.
- G. Ream pilot hole to nominal 23-inch diameter borehole to a depth of approximately 200 feet. Perform geophysical logging in accordance with Section 02679, Geophysical Logging.

- H. Set and cement nominal 16-inch diameter surface casing to approximately 200 feet BLS. Section 02674, Casing, provides a summary of the casing specifications for the well.
- I. Drill a nominal 15-inch diameter pilot hole to approximately 400 feet BLS using standard reverse-air drilling techniques. Conduct geophysical logging in accordance with Section 02679, Geophysical Logging.
- J. During reverse-air drilling activities, collect water samples (in accordance with Section 02311, Table 02311-1, List A) at every other drill rod connection (approximately every 90 feet) during pilot-hole drilling (approximately 200 to 400 feet). Collect drill cuttings/samples every 10 feet to the total depth of the well and describe visually in a lithologic log. Include hydrogeologic-related information as applicable. Perform short-term drill stem specific capacity tests at every other drilling rod connection that includes a water sampling event (approximately every 90 feet).
- K. Complete up to two (2) straddle packer or off-bottom packer tests at locations approved by the on-site ENGINEER's resident inspector within this interval to confirm the permeability and water quality of the proposed monitoring interval. Collect hydraulic data and water quality data during the packer testing. The goal of these packer tests will be to evaluate hydraulic characteristics of the proposed monitoring interval.
- L. Record drilling information during all pilot-hole drilling, including penetration rate, voids, water producing zones, etc., in daily reports prepared during all drilling activities. ENGINEER's resident inspector and CONTRACTOR shall prepare independent daily reports, which will be submitted weekly throughout the drilling period to the FDEP along with a brief summary of the week's activities.
- M. A mechanical drift indicator shall be run in pilot holes and reamed holes at intervals not greater than 90 feet. Tool scale shall clearly delineate 10 minutes or less. Any deviation in plumbness greater than 1 degree shall be corrected by the drilling Contractor at its own expense.
- N. Select depth for final casing using drilling, lithologic, and geophysical logs. Propose a final casing setting depth to the FDEP. Receive concurrence from FDEP and complete well as shown on Drawing No. 4.

- O. Set and cement nominal 8.625-inch diameter casing to approximately 350 feet BLS. Section 02674 provides a summary of the casing specifications for the well. Run temperature survey following each cementing stage to confirm cement fill in the annulus.
- P. Develop open-hole interval of monitoring well. Develop until clear water is produced from the well and until water quality is acceptable to the onsite ENGINEER.
- Q. Following well development, perform geophysical logging under static conditions in accordance with Section 02679, Table 02679-1.
- R. Collect a background water sample in accordance with Section 02311, Table 02311-1, List C, following development and geophysical logging of the well.
- S. Complete temporary wellhead at MW-1 to control fluids in well until final wellhead and appurtenances are constructed as shown in Drawing No. 6 of the contract drawings.
- T. Demobilize all equipment from site and restore site to original condition.
- U. Complete injection test at RW-1. Upon confirmation of acceptable geologic conditions based on data collected from testing of RW-1 and MW-1, the City will authorize construction of additional recharge wells.

3.04 PHASE II - RECHARGE WELLS RW-2 THROUGH RW-5 CONSTRUCTION

- A. Upon authorization from the City of Tampa and the ENGINEER to proceed with Phase II, construct a lined temporary drilling pad to contain all fluids during drilling operations. Install pad monitoring wells at each of the four corners of the drilling site as approved by FDEP and monitor the four wells throughout the drilling and testing period in accordance with the FDEP permit requirements.
- B. Install a 48-inch diameter pit casing through unconsolidated surficial deposits. the depth of the pit casing shall be determined by the CONTRACTOR. The vibratory casing installation method shall not be used.
- C. Drill nominal 8-inch to 12-inch diameter pilot hole to a depth of approximately 200 feet BLS using standard mud rotary drilling techniques. The goal of this pilot hole will be to penetrate the freshwater aquifer units and clay lithology within the Hawthorn Group to the Suwannee Limestone.

Collect drill cuttings/samples every 10 feet to the total depth of the well and describe visually in a lithologic log. Include hydrogeologic-related information as applicable.

- D. Record drilling information during all pilot-hole drilling, including penetration rate, voids, water producing zones, etc., in daily reports prepared during all drilling activities. ENGINEER's resident inspector and CONTRACTOR shall prepare independent daily reports, which will be submitted weekly throughout the drilling period to the FDEP along with a brief summary of the week's activities. Perform geophysical logging in accordance with Section 02679, Geophysical Logging.
- E. Ream pilot hole to nominal 47-inch diameter borehole to a depth of approximately 200 feet. Perform geophysical logging in accordance with Section 02679, Geophysical Logging.
- F. Set and cement nominal 42-inch diameter surface casing to approximately 200 feet BLS. Section 02674, Casing, provides a summary of the casing specifications for the well.
- G. A mechanical drift indicator shall be run in pilot holes and reamed holes at intervals not greater than 90 feet. Tool scale shall clearly delineate 10 minutes or less. Any deviation in plumbness greater than 1 degree shall be corrected by the drilling Contractor at its own expense.
- H. Drill nominal 8-inch to 12-inch diameter pilot hole to a depth of approximately 450 feet BLS using standard reverse-air drilling techniques. The goal of this pilot hole will be to penetrate the Ocala confining unit and identify the depth of the 10,000 mg/L total dissolved solids isopleth.
- I. During reverse-air drilling activities, collect water samples (Section 02311, Table 02311-1, List A) at every other drill rod connection (approximately every 90 feet) during pilot hole drilling (approximately 200 to 450 feet). Collect drill cuttings/samples every 10 feet to the total depth of the well and describe visually in a lithologic log. Include hydrogeologic-related information as applicable. Perform short-term drill stem specific capacity tests at every other drilling rod connection that includes a water sampling event (approximately every 90 feet).
- J. During pilot-hole advancement, collect up to two (2) 4-inch diameter, 10-foot length core sections at depths approved by the ENGINEER. Cores will target

potential confining intervals within the top of the Ocala Limestone. Cores will be shipped to a core laboratory for hydraulic testing of the core confining properties.

- K. Conduct geophysical logging on pilot hole in accordance with Section 02679, Geophysical Logging.
- L. Conduct up to four (4) straddle packer or off-bottom packer tests within this interval at depths approved by the on-site ENGINEER's resident inspector. Collect hydraulic data and water quality data during the packer testing. The goal of these packer tests will be to characterize hydrogeologic properties, identify the depth of the 10,000 mg/L TDS transition, and determine the intermediate casing setting depth and appropriate monitoring interval. Two separate tests may be run at each straddle packer test setting depth, testing in the packer interval and above the top packer (annulus). At the end of each packer test collect quality water quality samples in accordance with Section 02311, Table 02311-1, List B.
- M. Submit hydrogeologic data to the ENGINEER for transmittal to FDEP with a proposed intermediate casing setting depth. Upon approval from FDEP, plug back pilot hole with cement with 8% bentonite gel mixture. Ream pilot hole to a nominal 41-inch borehole to approximately 450 feet BLS.
- N. Conduct geophysical logging of the reamed hole in accordance with Section 02679, Geophysical Logging.
- O. Set and cement nominal 34-inch diameter surface casing to approximately 450 feet BLS, the anticipated base of the USDW. Section 02674, Casing, provides a summary of the casing specifications for the well.
- P. Drill a nominal 8-inch to 12-inch diameter pilot hole to the total depth of this well, up to 1,300 feet BLS, using standard reverse-air drilling techniques. The goal of the pilot hole will be to characterize the confining properties of the Ocala Limestone and define the hydraulic properties of the APHPZ, the targeted recharge zone.
- Q. During reverse-air drilling activities, collect water samples (Section 02311, Table 02311-1, List A) at every other drill rod connection (approximately every 90 feet) during pilot-hole drilling (approximately 450 to 1,300 feet). Collect drill cuttings/samples every 10 feet to the total depth of the well and describe visually in a lithologic log. Include hydrogeologic-related information

as applicable. Perform short-term drill stem specific capacity tests at every other drilling rod connection that includes a water sampling event (approximately every 90 feet).

- R. During pilot-hole advancement, collect up to three (3) 4-inch diameter, 10-foot length core sections at depths approved by the ENGINEER. Cores will target potential confining intervals above the proposed injection zone from approximately 450 feet to 650 feet BLS. Cores will be shipped by the Contractor to a core laboratory for hydraulic testing of the core confining properties.
- S. Upon traversing the entirety of the APHPZ and penetrating the MCU, perform geophysical logging under static and dynamic conditions in the open borehole in accordance with Section 02679, Geophysical Logging, to the total depth of the pilot hole.
- T. Complete up to four (4) straddle packer or off-bottom packer tests within this interval at depths approved by the ENGINEER. Collect hydraulic data and water quality data during the packer testing. The goal of these packer tests will be to evaluate hydraulic characteristics of the proposed recharge interval, define ambient groundwater quality, and to confirm confining properties across lower permeability interval overlying the recharge zone. Two separate tests may be run at each straddle packer test setting depth, testing the packer interval and above the top packer (annulus). At the end of each packer test collect quality water quality samples in accordance with Section 02311, Table 02311-1, List B.
- U. Back plug the middle confining unit interval with cement with 8% bentonite gel mixture.
- V. If the data confirm the presence of an adequate recharge zone, ENGINEER will propose a final casing setting depth to the FDEP. Following acceptance from FDEP, install a drillable bridge plug and plug back pilot hole with cement with 8% bentonite gel mixture through the Ocala Limestone, the confining interval above the APHPZ and complete well as described below and as shown in Drawing No. 4.
- W. Ream pilot hole to nominal 33 inches in diameter to a depth of approximately 650 feet BLS using reverse-air closed circulation drilling techniques. Perform logging in accordance with Section 02679, Geophysical Logging.

- X. Set and cement nominal 24-inch diameter final casing to approximately 650 feet BLS. Section 02674 provides a summary of the casing specifications for the well. Run temperature survey following each cementing stage to confirm cement fill in the annulus.
- Y. Complete pressure test on 24-inch diameter final casing in accordance with Section 02575 Mechanical Integrity Test. The pressure test will utilize either the cement seal from pressure grouting the casing, or a packer set at the base of the final casing. Pressurize casing to 1.5 times the anticipated maximum necessary injection pressure in the well. The pressure test is estimated to be run at approximately 200 psi. The pressure test will be deemed successful if the pressure change is within plus or minus 5 percent of the starting pressure after one hour of testing. Repeat pressure test, as necessary, until pressure test is deemed successful.
- Z. Drill out open-hole interval to approximately 1,200 feet BLS to a nominal 23-inches in diameter.
- AA. Develop open-hole interval using air-lift well development practices. Develop until clear water is produced from the well and until water quality is acceptable to onsite ENGINEER. Collect one water sample in accordance with Section 02311, Table 02311-1, List C at the end of the development period to establish background water quality of the recharge zone.
- BB. Complete a short duration pumping test on the finished well in accordance with Section 02681. CONTRACTOR will be required to have 100,000 gallons of storage on site. CONTRACTOR will conduct a pump-out test at 1-2 mgd
- CC. Perform geophysical logging in accordance with Section 02679, Table 02679-1. Run video log to total depth of well. Perform external Mechanical Integrity Test (MIT) including Radioactive Tracer Survey (RTS) as specified in Section 02575 Mechanical Integrity Test.
- DD. Complete temporary wellheads as shown in Drawing No. 5.
- EE. Demobilize all equipment from the site and restore site to original condition.

3.05 CONSTRUCT MONITOR WELLS MW-2 THROUGH MW-5

- A. Locate monitoring well location. The proposed location of each monitoring well is shown on Drawing No. 2.

- B. Construct a lined temporary drilling pad to contain all fluids during drilling operations. Construct pad monitoring wells at locations approved by FDEP and monitor in accordance with the requirements of the FDEP well construction permit. Two pad monitoring wells may be coupled with two wells from the recharge well if authorized by FDEP.
- C. Install a 24-inch diameter pit casing through unconsolidated surficial deposits. The depth of the pit casing will be determined by the CONTRACTOR. The vibratory casing installation method shall not be used. Section 02674 Casing provides a summary of the casing specifications. Drawing No. 4 shows the completion details for the monitoring well.
- D. Drill nominal 8-inch to 12-inch diameter pilot hole to a depth of approximately 200 feet BLS using standard mud rotary drilling techniques. The goal of this pilot hole will be to penetrate the freshwater aquifer units and clay lithology within the Hawthorn Group to the Suwannee Limestone. Collect drill cuttings/samples every 10 feet to the total depth of the well and describe visually in a lithologic log. Include hydrogeologic-related information as applicable.
- E. Record drilling information during all pilot-hole drilling, including penetration rate, voids, water producing zones, etc., in daily reports prepared during all drilling activities. ENGINEER's resident inspector and CONTRACTOR shall prepare independent daily reports, which will be submitted weekly throughout the drilling period to the FDEP along with a brief summary of the week's activities. Perform geophysical logging in accordance with Section 02679, Geophysical Logging.
- F. A mechanical drift indicator shall be run in pilot holes and reamed holes at intervals not greater than 90 feet. Tool scale shall clearly delineate 10 minutes or less. Any deviation in plumbness greater than 1 degree shall be corrected by the drilling CONTRACTOR at its own expense.
- G. Ream pilot hole to nominal 23-inch diameter borehole to a depth of approximately 200 feet. Perform geophysical logging in accordance with Section 02679, Geophysical Logging.
- H. Set and cement nominal 16-inch diameter surface casing to approximately 200 feet BLS. Section 02674, Casing, provides a summary of the casing specifications for the well.

- I. Drill a nominal 15-inch diameter pilot hole to approximately 400 feet BLS using standard reverse-air drilling techniques. Conduct geophysical logging in accordance with Section 02679, Geophysical Logging.
- J. During reverse-air drilling activities, collect water samples (Section 02311, Table 02311-1, List A) at every other drill rod connection (approximately every 90 feet) during pilot-hole drilling (approximately 200 to 400 feet). Collect drill cuttings/samples every 10 feet to the total depth of the well and describe visually in a lithologic log. Include hydrogeologic-related information as applicable. Perform short-term drill stem specific capacity tests at every other drilling rod connection that includes a water sampling event (approximately every 90 feet).
- K. Complete up to two (2) straddle packer or off-bottom packer tests within this interval at depths approved by the ENGINEER to confirm the permeability and water quality of the proposed monitoring interval. Collect hydraulic data and water quality data during the packer testing. The goal of these packer tests will be to evaluate hydraulic characteristics of the proposed monitoring interval.
- L. Record drilling information during all pilot-hole drilling, including penetration rate, voids, water producing zones, etc., in daily reports prepared during all drilling activities. ENGINEER's resident inspector and CONTRACTOR shall prepare independent daily reports, which will be submitted weekly throughout the drilling period to the FDEP along with a brief summary of the week's activities.
- M. A mechanical drift indicator shall be run in pilot holes and reamed holes at intervals not greater than 90 feet. Tool scale shall clearly delineate 10 minutes or less. Any deviation in plumbness greater than 1 degree shall be corrected by the drilling Contractor at its own expense.
- N. Select depth for final casing using drilling, lithologic, and geophysical logs. Propose a final casing setting depth to the ENGINEER for submittal to FDEP. Receive concurrence from FDEP and complete well as shown on Drawing No. 4.
- O. Set and cement nominal 8.625-inch diameter casing to approximately 350 feet BLS. Section 02674 provides a summary of the casing specifications for the well. Run temperature survey following each cementing stage to confirm cement fill in the annulus

- P. Develop open-hole interval of monitoring well. Develop until clear water is produced from the well and until water quality is acceptable to onsite ENGINEER.
- Q. Following well development, perform geophysical logging under static conditions in accordance with Section 02679, Table 02679-1.
- R. Collect a background water sample in accordance with Section 02311, Table 02311-1, List C following development and geophysical logging of the well.
- S. Complete temporary wellhead as shown in Drawing No. 6.
- T. Demobilize all equipment from site and restore site to original condition.

END OF SECTION

SECTION 01150
MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

- A. Payment for the work to be completed under this project will be in accordance with Contract Items section of the contract. The Contract Items section is based upon the unit prices bid by the CONTRACTOR and on the Bid Forms submitted by CONTRACTOR and accepted by the City.

- B. It is the intent of the City to make payment for construction associated with the Project using the Contract Items, and by the method of measurement and payment for all listed Contract Items. Incidental work which may be associated with a specific Contract Item is to be included in the cost proposed by the bidding CONTRACTOR for that Contract Item. It is not the intent of the City to allow for additional compensation beyond those Contract Items included in the Schedule of Quantities and Unit Prices Bid Form submitted by the CONTRACTOR. It is therefore important that all Bidders fully acquaint themselves with all Plans, Specifications, Drawings, and other details pertaining to the Work.

- C. Work not shown or called out in either the Plans or the Specifications, but necessary in carrying out the intent of the Project or in the complete and proper execution of the Work, is required and shall be performed by the CONTRACTOR as though it were specifically delineated or described. No additional compensation will be considered for this associated and necessary Work.

- D. Damage caused by the construction activities to existing utilities including sewers and force mains, potable and reclaimed water mains and house services, underground electrical cable, TV and telephone cable and all other infrastructure shall be the sole responsibility of the CONTRACTOR. No additional payment will be made for replacement or restoration of these infrastructure components.

1.02 MEASUREMENT—GENERAL

- A. Quantities to be paid will be based on field measurements made by the CONTRACTOR and agreed to by ENGINEER and the City.

1.03 ESTIMATED QUANTITIES

- A. The quantities shown are approximate and are given only as a basis of calculation upon which the award of the Contract is to be made. The City/ENGINEER does not assume any responsibility for the final quantities, nor shall the CONTRACTOR claim misunderstanding because of such estimate of quantities. The City has the right to change the listed quantities as they deem necessary or chose not to complete a Contract Item. Final payment will be made only for satisfactorily completed quantities of a Contract item.

1.04 MEASUREMENT AND PAYMENT

- A. General:
 - 1. The CONTRACTOR shall receive and accept the compensation provided in his Bid and defined in the Agreement as full payment for furnishing all materials and all labor, tools and equipment, for performing all operations necessary to complete the work under the project. It is the intent of these contract documents that any cost for which compensation is not directly provided by a bid item shall be prorated and included in the bid item for which they are required.
 - 2. The prices stated in the CONTRACTOR's Schedule of Quantities and Unit Prices Bid Form include all costs and expenses for taxes, labor, materials, equipment, commissions, transportation charges and expenses, patent fees and royalties, labor for handling material during inspection together with any and all other costs and expenses for performing and completing the work as shown on the plans and specified herein. The basis of payment for any item at the unit price shown in the bid form shall be in accordance with the description of that item in this section. All work performed shall be in strict accordance with these specifications.
 - 3. No separate payment will be made for the following items, the cost of such work shall be included in the applicable contract pay items of work, including compliance with FDEP or any other agency:
 - a) Shop drawings, working drawings or other CONTRACTOR documentation.
 - b) Clearing and grubbing.

- c) Excavation, including shoring, sheeting and bracing as required by OSHA trench excavation safety standards.
- d) Dewatering and proper disposal of all water.
- e) Backfill and proper compaction, including suitable fill and all grading.
- f) Traffic and pedestrian control as required to complete the work and described in Section 01005.
- g) Protection, repair, or replacement of existing utilities damaged as a result of construction activities.
- h) Replacement or restoration of grass, trees and shrubbery in non-paved areas within established pay limits.
- i) Replacement or restoration of paved or unpaved roadways, grass and shrubbery plots damaged as a result of construction activities.
- j) Temporary facilities and controls during construction such as water/sanitary facilities, traffic control, informational signs and environmental protection, unless specifically provided for in a pay item.
- k) Removing and disposing of waste material due to construction.
- l) Cleanup and restoring the job site to its original condition, which includes but is not necessarily limited to restoring the ground surface to its original grade.
- m) Testing of the system.
- n) Any material and equipment required to be installed and used for the tests.
- o) Maintaining the existing quality of service during construction.
- p) Appurtenant work as required for a complete and operable system.
- q) Coordination with all Federal, State and Local agencies and utilities.
- r) Tree trimming as required by the City or any other agency.
- s) Repair of private irrigation systems damaged during construction.
- t) Furnishing and installing suitable temporary fences, as directed by the City, to adequately secure areas protected by a permanent fence when that permanent fence must be removed. The temporary fence shall remain in place until the permanent fence is replaced.

- B. The CONTRACTOR's attention is again called to the fact that the bids for the various items of work are intended to establish a total price for completing the work in its entirety. Should the CONTRACTOR feel that the cost for any item of work has not been established by the Bid or Contract Pay Items, he shall include the cost for that work in some other applicable bid item, so that his Bid for the project does reflect his total price for completing the work in its entirety.
- C. The quantities for payment under this Agreement shall be determined by actual measurement of the completed items, in place, ready for service and accepted by the ENGINEER or the City, in accordance with the applicable method of measurement therefore. A representative of the CONTRACTOR shall witness all field measurements. Measurements shall be accomplished to the following accuracy unless otherwise specified:

Item	Measurement Accuracy	Method of Measurement
EA	Each	Each—Field Count by ENGINEER or the City
LBS	100 LBs	100 pounds—Field Measured by ENGINEER or the City
LS	One	Lump Sum—Unit is one; no measurement will be made
Gal	Gal	Gallon—Verification of Delivery Manifest by ENGINEER or the City
FT	Feet	Unit of length - Field Measured by ENGINEER or the City
FT3	Cubic Feet	Volume - Field Measured by ENGINEER or the City
HR	Hours	Hour—As Recorded by ENGINEER or the City. Measured to the nearest 0.5 hour.
YD3	Cubic Yard	Volume - Field Measured by ENGINEER or the City

- D. All work and materials shall be in accordance with the Technical Specifications and Drawings herein. All materials shall be furnished by the CONTRACTOR.

1.05 CONTRACT ITEM DESCRIPTIONS

- A. The Contract Items section establishes a breakdown of the work to be performed under this project. The Contract Item description, method of

measurement and basis for payment are listed for each of the Contract Items that are a part of this project.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01300
SUBMITTALS

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Requirements and procedures necessary for scheduling, preparation, and submission of submittals.
- B. Requirements for preparation of progress schedules.

1.02 RELATED WORK SPECIFIED UNDER OTHER SECTIONS

- A. Individual Specification sections in these Contract Documents contain additional and special submittal requirements. Individual sections shall take precedence in the event of a conflict with this section.

1.03 SUBMITTALS PROCEDURE

- A. The City reserves the right to modify the procedures and requirements for submittals, as necessary to accomplish the specific purpose of each submittal. Direct inquiries to ENGINEER regarding the procedure, purpose, or extent of any submittal.
- B. Review, acceptance, or approval of substitutions, schedules, shop drawings, lists of materials, and procedures submitted or requested by CONTRACTOR shall not add to the Contract amount, and additional costs which may result shall be solely the obligation of CONTRACTOR.
- C. The City is not precluded by virtue of review, acceptance, or approval, from obtaining a credit for construction savings resulting from allowed concessions in the work or materials used to complete the work.
- D. The City is not responsible to provide engineering or other services to protect CONTRACTOR from additional costs accruing from submittals.
- E. Submittals processed by ENGINEER do not become Contract Documents and are not Change Orders; the purpose of submittal review is to establish a reporting procedure and is intended for CONTRACTOR's convenience in

organizing the work and to permit ENGINEER to monitor CONTRACTOR's progress and understanding of the design.

- F. Delays caused by the need for re-submittal shall not constitute a basis for claim.
- G. After checking and verifying all field measurements, CONTRACTOR shall make submittals to ENGINEER, in accordance with the schedule of submittals for review.
 - 1. Submittals shall bear a stamp or specific written indication that CONTRACTOR has satisfied its responsibilities under the Contract Documents with respect to the review of the submittal.
 - 2. Data shown shall be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to enable ENGINEER to review the information.
- H. CONTRACTOR shall check samples and accompany with specific written indication that CONTRACTOR has satisfied requirements under the Contract Documents with respect to review of submittals, and identify clearly as to material, supplier, pertinent data such as catalog numbers, and the intended use.
- I. Before submission of each submittal, CONTRACTOR shall determine and verify quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar data with respect thereto; review and coordinate each submittal with other submittals, requirements of the Work, and the Contract Documents.
- J. At the time of each submission, CONTRACTOR shall give ENGINEER specific written notice of each variation that the submittal may have from the requirements of the Contract Documents; in addition, make specific notation on each shop drawing submitted to ENGINEER for review and approval of each such variation.
- K. ENGINEER's review will be only for conformance with the design concept of the project and for compliance with the information given in the Contract Documents, not extending to means, methods, techniques, sequences, or procedures of construction (except where a specific means, method, technique, sequence, or procedure of construction is indicated in or required by the Contract Documents) nor to safety precautions or programs incident

thereto. Review of a separate item as such will not indicate review of the assembly in which the item functions.

- L. Where a shop drawing or sample is required by the Specifications, related work performed prior to ENGINEER's review and approval of the pertinent submission shall be the sole expense and responsibility of CONTRACTOR.

1.04 ADMINISTRATIVE SUBMITTALS

- A. The CONTRACTOR shall:
- B. Provide administrative submittals required by the BIDDING REQUIREMENTS, General Conditions, Supplementary Conditions, and as may be specifically required in other parts of the Contract Documents.
- C. Make required submittals promptly to the applicable federal, state, or local agency, as required by law. Failure to comply with this requirement may result in withholding of progress payments and make CONTRACTOR liable for other prescribed action and sanctions.
- D. Submit to the City a copy of letters relative to the Contract including notifications, reports, certifications, and the like that are submitted directly to a federal, state, or other governing agency.

1.05 SCHEDULES

- A. The CONTRACTOR shall:
- B. General:
 - 1. Submit estimated progress schedule and preliminary schedule of submittals to ENGINEER prior to any drilling activities at the site.
 - 2. Revise and resubmit as specified, and identify all changes made from previous schedule submittal.
- C. Schedule of Submittals, Preliminary Schedule of Submittals: Indicate submittals required by Specification section number with brief description, starting and completion dates for respective submittal preparation, and submittal review by ENGINEER. Refer to the City's Front-End Document for detailed Schedule requirements.

1.06 SHOP DRAWINGS

- A. Refer to SP-72 in the Specific Provisions section.

1.07 QUALITY CONTROL SUBMITTALS

- A. Manufacturers' Certification of Proper Installation: Where manufacturer's certification is required in the Specifications, the manufacturer shall provide certification stating the following:
 - 1. The product or system has been installed in accordance with the manufacturer's recommendations.
 - 2. The product or system has been inspected by a manufacturer's authorized representative.
 - 3. The product or system has been serviced with the proper lubricants.
 - 4. Applicable safety equipment has been properly installed.
 - 5. Proper electrical and mechanical connections have been made.
 - 6. Proper adjustments have been made, and the product or system is ready for functional testing, plant startup, and operation.
- B. Certification of Compliance:
 - 1. Where specified, CONTRACTOR shall furnish certification of compliance for products specified to a recognized standard or code prior to the use of such products in the work. Certifications shall be signed by the manufacturer of the product; state that the components involved comply in all respects with the requirements of the Specifications. Furnish certification of compliance with each lot delivered to the job site and clearly identify the lot so certified.
 - 2. Products used on the basis of a certification of compliance may be sampled and tested at any time. The fact that a product is used on the basis of a certification of compliance shall not relieve CONTRACTOR of responsibility for incorporating products in the work which conforms to requirements of the Contract Documents. Products not conforming to such requirements will be subject to rejection whether in-place or not.
 - 3. ENGINEER reserves the right to refuse permission for use of products on the basis of a certification of compliance.
- C. Functional Test Certification: Where a certification of functional testing is specified for certain equipment, CONTRACTOR (as applicable to the equipment furnished) shall state in writing that:
 - 1. Necessary test pump equipment has been successfully tested.

2. Necessary equipment systems have been checked for proper installation, started, and successfully tested to indicate they are operational.
3. Adjustments and calibrations have been made.
4. The systems and subsystems are capable of performing their intended functions.
5. The facilities are ready for performance testing, or for startup and intended operation, as applicable.
6. Where several manufacturers have furnished equipment in a system, obtain each manufacturer's review and acknowledgment of its respective equipment as part of a functional test for the overall system.

D. Performance Test Reports: CONTRACTOR shall prepare and submit performance test reports where specified for equipment and systems.

1.08 OPERATION AND MAINTENANCE (O & M) MANUALS

- A. CONTRACTOR shall provide the City with manufacturer O&M manuals and calibration documentation for all permanent equipment purchased and installed by the CONTRACTOR required by these specifications in accordance with SP-72 in the Specific Provisions section.

1.09 CONSTRUCTION PHOTOGRAPHS

- A. The CONTRACTOR shall photograph the preconstruction and post-construction site for its records in accordance with SP-91 and SP-92 in the Specific Provisions section.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01500
CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Temporary utilities required during construction.
- B. Temporary construction facilities, including field offices.
- C. CONTRACTOR shall be responsible for obtaining building permits for temporary facilities and field offices, preparation of required permit documents, and payment of permit fees as necessary.
- D. Requirements for security and protection of facilities and property.
- E. Requirements for traffic regulation and access to the work.
- F. Temporary controls for protection of environment.

1.02 SUBMITTALS

- A. Safety and Protection Submittals: Copies of permits or approvals for construction activities from governing safety authorities.
- B. Site layout and locations of temporary utility connections. Including information on methods and requirements for temporary utility connections.

1.03 MOBILIZATION

- A. The CONTRACTOR shall:
- B. Use only the areas within the limits of construction shown on the site plans provided in the contract drawings. Arrange for additional area if needed for construction operations, as acceptable to the City, and ENGINEER.
- C. Notify ENGINEER of obstructions not shown or not readily apparent by visual inspection of the staging area. If such obstructions adversely affect CONTRACTOR's operations, proper adjustment to Contract will be considered. Do not remove obstructions without the City's prior consent.

1.04 TEMPORARY UTILITIES

- A. Costs After Substantial Completion: Upon acceptance of the work or a portion of the work defined and certified as substantially complete by ENGINEER, and the City commences full-time successful operation of the facility or portion thereof, the City will bear the cost for utilities used for the City's operation. CONTRACTOR shall continue to pay for utilities used for their operation until final acceptance of the Work, except as provided herein.
- B. Electric Power:
1. Electric power will not be available for the construction trailer or drilling operations. Electrical needs will be incurred and paid for by the CONTRACTOR. CONTRACTOR shall determine the type and amount available and make arrangements for obtaining temporary electric service at the site.
 2. CONTRACTOR shall provide the necessary temporary electrical service required for drilling and construction operations, with branch wiring and distribution boxes located to allow service and lighting with construction type power cords.
 3. Temporary electric power shall meet construction safety requirements of OSHA, State, and other governing agencies.
 4. The Contractor will be responsible for all requirements and cost to provide the electrical supply which could include, but may not be limited to the following:
 - Obtaining required permits, preparation and submittal of permit documents, and permit cost
 - Coordination and payment fees and cost to obtain service from TECO
 - Payment of monthly utility bills
 - Designing and furnishing and installing equipment needed to provide the electrical supply
- C. Water:
1. Water supply and transport for drilling operations is the responsibility of CONTRACTOR. The City will be responsible for the cost of water used for drilling operations.
 2. Water used by CONTRACTOR from the City must be accounted for. Supply totalizing flow meter for CONTRACTOR use. CONTRACTOR will

be responsible for conveyance of water from the City supply to construction site.

3. CONTRACTOR may use fire hydrants for water supply if an appropriate meter and backflow prevention is used. Locations of hydrants near the proposed wells are shown on the site plan drawings.
4. During well acidization, a reduced pressure backflow preventer shall be installed by CONTRACTOR on any potable water supply sources.

D. Sewage:

1. Provide and maintain in sanitary condition at all times chemical toilets for CONTRACTOR's employees and Subcontractors' employees that comply with regulations of local and State health departments. They shall be of watertight construction so that no contamination of the area can result from their use. CONTRACTOR shall make arrangements for frequent emptying of toilets with local sewage treatment authority. Upon completion of the work, remove toilets and restore area to original condition.
2. Use of the City's existing sanitary facilities by construction personnel will not be allowed.

E. Field Offices:

1. In addition to CONTRACTOR's field office, CONTRACTOR shall furnish and maintain a separate temporary field office for ENGINEER at a designated location. The field office shall be an office trailer, as approved, and shall be not less than 300 square feet of floor space with an enclosed office room at one end. The office shall be situated in a location acceptable to ENGINEER. The office shall be watertight and weather-proof, with screened windows and a solid door with a lock and four keys. The office shall be provided with electrical services for the duration of the contract. The office shall have any necessary equipment adequate to maintain a temperature of 72 degrees F under all conditions. The office shall be equipped with a plumbing system with drains including a separate room with lavatory, water closet, sink, wall cabinet, mirror, hand soap, and paper towels. A portable outside toilet is not acceptable. All utilities shall be provided and maintained by CONTRACTOR. No wastewater hookups to existing plant operations will be allowed. Trailer waste disposal tanks shall be pumped out by

CONTRACTOR on a regular basis throughout the project duration as required to maintain clean and sanitary conditions.

2. CONTRACTOR shall supply a water cooler or refrigerator with bottled water and maintain an adequate supply throughout construction.
3. The office shall be situated such to give a clear, unobstructed view of the drilling rig. The floor of the office shall be covered with linoleum or tile and shall be furnished with:
 - a) Two 30-inch by 60-inch desks with drawers and two office chairs.
 - b) Folding table(s) and chairs to seat 10 people.
 - c) One four-drawer legal size file cabinet with lock and keys.
 - d) One 7-foot by 12-inch by 3-foot steel utility shelving unit assembled.
 - e) One bookshelf.
 - f) One 3-foot by 4-foot bulletin board, mounted.
 - g) One 3-foot by 4-foot dry erase board, mounted.
 - h) One first-aid kit.
 - i) Two fire extinguishers, non-toxic, dry chemical, meeting U. L. for Class A, B and C fires.
 - j) Two waste baskets.
 - k) One plain paper copier with scanning capabilities and with enlargement and reduction capabilities and automatic feeder, as approved by ENGINEER. CONTRACTOR shall furnish and maintain all copier supplies during the contract.
 - l) A high-speed wireless internet connection with unlimited, unrestricted data usage for ENGINEER's use for the duration of the project.

1.05 REMOVAL OF TEMPORARY FACILITIES

- A. CONTRACTOR shall remove temporary facilities after substantial completion, as directed by ENGINEER and prior to Final Completion inspection, and return area used by temporary facilities to same or better condition than originally provided.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 TEMPORARY CONSTRUCTION

- A. Access Roads and Parking:

1. Temporary construction access roads will be made available to CONTRACTOR as necessary to execute the work. Maintain in good condition throughout the project and leave the area in a condition satisfactory to the City.
 2. CONTRACTOR shall use area designated within CONTRACTOR's temporary facilities and as agreed upon by ENGINEER and the City, for parking of CONTRACTOR's employee vehicles. No personal vehicles will be allowed in the construction area or plant site outside of the designated construction and parking areas. Subcontractor vehicles required to be on site will be escorted to the site by the City or ENGINEER.
- B. Storage Yards and Buildings:
- C. The CONTRACTOR shall:
1. Construct temporary storage yards for the storage of products that are not subject to damage by weather conditions. Materials such as pipe and reinforcing and structural steel shall be stored on pallets or racks, off the ground, and in a manner to allow ready access for inspection and inventory. Temporary gravel surfacing of storage yards must be approved by ENGINEER. Temporary storage yards shall be contained within the limits of construction shown on site plans provided in the contract drawings.
 2. Store combustible materials (paints, solvents, fuels, etc.) in a well-ventilated building remote from other buildings.
- D. Fencing and Barricades:
1. Security Fence: While performing work at each well site, the CONTRACTOR shall provide temporary security fencing and access gates around the limits of construction shown on the site plans provided in the contract drawings. Fencing can be removed after drilling operations are completed at each site. Do not modify existing fencing without prior authorization and approval by the City.
 2. Barricades: CONTRACTOR shall provide barricades as necessary to prevent unauthorized entry to construction areas, both inside and outside of fenced area. Also provide barricades to protect existing facilities and adjacent properties from potential damage. Locate barriers to enable access by facility operators and property owners.

3.02 SAFETY AND PROTECTION

A. Examination of Existing Facilities:

1. After the Contract is awarded and before the commencement of work, CONTRACTOR shall make a thorough examination of all existing buildings, structures, and other improvements in the vicinity of the work, as applicable, which might be damaged by construction operations.
2. Periodic examinations of existing buildings, structures, and other improvements in the vicinity of the work shall be made jointly by authorized representatives of CONTRACTOR, ENGINEER, and the City. The scope of examination will include cracks in structures, settlement, leakage, and similar conditions.
3. CONTRACTOR will also be responsible for videotaping the site prior to mobilization of drilling equipment and will submit two approved copies to ENGINEER prior to mobilizing equipment to the Site.
4. These records are intended for use as indisputable evidence in ascertaining whether and to what extent damage occurred as a result of CONTRACTOR's operations, and are for protection of adjacent property owners, CONTRACTOR, and the City.

B. Safety Requirements:

1. CONTRACTOR shall do whatever work is necessary for safety and be solely and completely responsible for conditions of the job site, including safety of all persons (including employees) and property during the Contract period. This requirement shall apply continuously and not be limited to normal working hours.
2. Safety provisions shall conform to Federal and State Departments of Labor Occupational Safety and Health Act (OSHA), and other applicable federal, state, county, and local laws, ordinances, codes, requirements set forth herein, and regulations that may be specified in other parts of these Contract Documents. Where these are in conflict, the more stringent requirement shall be followed. CONTRACTOR shall become thoroughly familiar with governing safety provisions and shall comply with the obligations set forth therein.
3. CONTRACTOR shall develop and maintain for the duration of the Contract a safety program that will effectively incorporate and implement required safety provisions. CONTRACTOR shall appoint a

- qualified employee who is authorized to supervise and enforce safety program compliance.
4. ENGINEER's duty to conduct construction review of CONTRACTOR's performance is not intended to include a review or approval of the adequacy of CONTRACTOR's safety supervisor, safety program, or safety measures taken on or near the construction site.
 5. As part of safety program, CONTRACTOR shall maintain at its office or other well-known place at the job site safety equipment applicable to the work as prescribed by the governing safety authorities and articles necessary for administering first-aid. Establish procedures for the immediate removal to a hospital or a doctor's care of persons who may be injured on the job site.
 6. CONTRACTOR shall comply with the City's safety rules while on the City's property.
 7. If death or serious injuries or damages occur, the accident shall be reported immediately by telephone or messenger to ENGINEER. In addition, CONTRACTOR shall promptly report in writing all accidents whatsoever arising out of, or in connection with, the performance of the work whether on or adjacent to the site, giving full details and statements of witnesses.
 8. If claim is made by anyone against CONTRACTOR or any Subcontractor on account of accident, CONTRACTOR shall promptly report the facts in writing, giving full details of the claim.
- C. Traffic Safety and Access: CONTRACTOR shall comply with rules and regulations of the city, state, and county authorities regarding closing or restricting the use of public streets or highways. No public or private road shall be closed, except by written permission of the proper authority. Ensure the least possible obstruction to traffic, both onsite and offsite, and normal commercial pursuits. Traffic control procedures and devices used on all local, county, and state rights-of-way shall meet the requirements of the applicable current laws and regulations for traffic control.
- D. Fire Prevention: CONTRACTOR shall perform all work in a firesafe manner. Furnish and maintain on the site adequate firefighting equipment capable of extinguishing incipient fires. Comply with applicable federal, local, and state fire prevention regulations. Where these regulations do not apply, follow applicable parts of the National Fire Prevention Standard for Safeguarding Building Construction Operations (NFPA No. 241).

- E. Use of Explosives: No blasting or use of explosives will be allowed on the job site.
- F. Protection of Work and Property:
 - 1. General: CONTRACTOR shall employ such means and methods necessary to adequately protect public property and property of the City against damage. In the event of damage to such property, immediately restore the property to a condition equal to its original condition and to the satisfaction of ENGINEER and property owner and bear all costs thereof.
 - 2. Finished Construction:
 - a) CONTRACTOR shall assume the responsibility for protection of finished construction and shall repair and restore any and all damage to finished work to its original or better condition, until the project has been deemed complete by the City.
 - b) At such time temporary facilities and utilities are no longer required for the work, CONTRACTOR shall notify ENGINEER of intent and schedule for their removal. Remove temporary facilities and utilities from the site as CONTRACTOR's property and leave the site in such condition as specified, as shown on the Drawings or as directed by the City.
 - c) In unfinished areas, CONTRACTOR shall leave the site evenly graded, sodded, or planted as necessary, in a condition that will restore original drainage, and with an appearance equal to or better than original.

3.03 ENVIRONMENTAL CONTROLS

- A. General:
 - 1. CONTRACTOR in executing the work shall maintain affected areas within and outside project boundaries free from environmental pollution that would be in violation of federal, state, or local regulations.
 - 2. Do not impair operation of existing sewer systems. Prevent construction material, pavement, concrete, earth, volatile and corrosive wastes, and other debris from entering sewers, pump stations, or other water or wastewater treatment facility structures. Maintain original site drainage wherever possible.
- B. Waste Pollution Control:

The CONTRACTOR shall:

1. Comply with laws, rules, and regulations of the State of Florida and agencies of the United States Government prohibiting the pollution of lakes, bays, ponds, wetlands, streams, or river waters from the dumping of refuse, rubbish, or debris.
2. Comply with the procedures and guidance outlined by the U.S. Environmental Protection Agency, the Florida Department of Environmental Protection, Hillsborough County, and the Southwest Florida Water Management District for erosion, and sediment control and control of turbidity in all discharges and obtain any necessary permits required for compliance.

C. Waste Material Disposal:

1. Excavated material, drilling additives, and other waste material must be disposed of by CONTRACTOR in accordance with the State of Florida and Hillsborough County Regulations in licensed landfills or at other sites for which approval is obtained. CONTRACTOR shall submit the proposed haul route(s) for each site intended to be used and shall bear all costs associated with the disposal of the waste. The site must be approved by FDEP prior to drilling activities. Provide watertight conveyance for liquids, semi-liquids, or saturated solids that tend to bleed during transport. A manifest must be obtained by the City prior to removal to disposal site. Disposal costs for hazardous waste materials are the responsibility of CONTRACTOR.
2. CONTRACTOR shall maintain areas covered by the contract and affected public properties free from accumulations of waste, debris, and rubbish caused by construction operations. Remove excavated materials from the site in a manner approved by ENGINEER.

D. Air Pollution Control: CONTRACTOR shall minimize air pollution likely to occur from construction operations by wetting down bare soils during windy conditions, requiring proper combustion emission control devices on construction vehicles and equipment, and by shutdown of motorized equipment not in use. Trash burning will not be permitted on the construction site.

E. Noise Control: CONTRACTOR shall minimize noise by executing work using appropriate construction methods and equipment. If necessary, provide

acoustical barriers so noise emanating from tools or equipment will not exceed legal noise levels.

END OF SECTION

SECTION 01505
MOBILIZATION/DEMOBILIZATION/SITE WORK

PART 1 GENERAL

1.01 WORK INCLUDED

- A. This section covers the work necessary to transport to the site all personnel, supplies, and equipment; set up workover and drill rigs and temporary facilities; equipment referenced in other sections; and temporary power, water, and per diem. This section also covers the work necessary to remove from the site all personnel, supplies, and equipment; remove workover and drill rigs and temporary facilities; equipment referenced in other sections; and site restoration and cleanup. Time is of the essence. Demobilization shall be completed within two weeks after substantial completion of other site work.

PART 2 PRODUCTS

2.01 GENERAL

- A. CONTRACTOR shall provide all materials and equipment required to accomplish the work as specified.

2.02 SECURITY

- A. CONTRACTOR shall provide secured protection for equipment or materials stored at the site or locations designated and approved by the City. CONTRACTOR shall assume full responsibility for all supplies, materials, and equipment required by it for the contracted work, whether furnished by itself or other parties, until the wells have been installed and accepted by ENGINEER and the City.

PART 3 EXECUTION

3.01 WORKMANSHIP

- A. Install temporary facilities in accordance with Section 01500, Construction Facilities and Temporary Controls. Construct temporary drilling pad in accordance with Specifications and Drawings. Design of temporary drilling pad must be approved by FDEP. CONTRACTOR shall provide ENGINEER 10 normal

working days' notice prior to mobilization to the drilling site. ENGINEER will inform FDEP and SWFWMD of the CONTRACTOR's schedule.

- B. CONTRACTOR shall set up all equipment at the site designated by ENGINEER. Confine work to designated work areas.
- C. Clearing and grubbing of the site will not be performed by the City prior to mobilization to the site. Some obstructions may not be shown on the site plan. CONTRACTOR is advised to carefully inspect the site and existing facilities before bidding on or beginning any work at the site. The removal of minor obstructions shall be anticipated and accomplished, even though not shown or specifically mentioned.
- D. CONTRACTOR is responsible for providing physical access to all work areas for all vehicles necessary for well construction and testing. ENGINEER accepts no liability for costs incurred due to CONTRACTOR's failure to thoroughly examine the site and review existing site plans, data, and these Specifications.

3.02 CONTAMINATION PRECAUTIONS

- A. Avoid contamination of the project area. Do not dump waste oil, rubbish, or other similar materials on the ground. Cleanup of any contamination by CONTRACTOR or his Subcontractors shall be performed by CONTRACTOR at his sole expense.
- B. Avoid spillage of brackish water produced during drilling operations. CONTRACTOR shall be responsible for all remediation, including additional monitoring that may be required, related to releases to the surficial aquifer caused by his personnel, equipment, and/or materials.

3.03 SUBGRADE PREPARATION FOR AREA OF TEMPORARY PAD

- A. Prior to fill replacement for area, proof-roll the subgrade with a loaded dump truck or similar heavy wheeled vehicle to detect soft or loose zones. Notify ENGINEER prior to commencement of proof-rolling. If soft or loose zones are found, excavate the soft or loose material to a depth accepted by ENGINEER, then fill with granular fill compacted as specified for such fill. Compact the upper 12 inches of the subgrade to 95 percent of relative compaction.

3.04 CLEANUP OF CONSTRUCTION AREAS

- A. CONTRACTOR shall avoid defacing of the site area. Do not dump waste oil, fuel, rubbish, or other materials on the ground. Restore the site to original or better condition when work is complete.
- B. Replace or repair any facility, equipment, buildings, fencing, etc. damaged during work. Site cleanup shall be completed to the satisfaction of the City. Waste material and construction debris, including; subsurface fluids, drill cuttings, wood, pipe, hoses, etc. shall be contained so that it shall not migrate from areas designated by ENGINEER. Materials shall be segregated and identified and removed and disposed of offsite, as approved by ENGINEER. The replacement of minor obstructions and restoration of physical features, even though not specifically mentioned, shall be anticipated and accomplished.
- C. Upon leaving the site at the completion of the work, CONTRACTOR shall clean equipment and materials of surface and subsurface materials contacted at the site.

3.05 SURVEYS

- A. Prior to initiating drilling of the injection well, CONTRACTOR shall survey the site to establish horizontal and vertical control of all wells including pad monitor wells, piping, and equipment. CONTRACTOR shall provide four certified copies and an electronic copy in Adobe Acrobat format of survey upon initiation of work.
- B. Following construction of wells, CONTRACTOR shall survey each well site to establish horizontal and vertical control. The survey shall include a description by metes and bounds and a detailed sketch of the parcel that shows the location of the well. The location shall be measured by a Florida certified land surveyor, and shall contain the surveyor's signature, registration number, official seal, and the following statement: "I hereby certify that this survey was made under my responsible direction and supervision, and is a correct representation of the land surveyed." (Chapter 62-528.455 FAC). CONTRACTOR shall provide a certified survey in Adobe Acrobat format upon completion of work.

END OF SECTION

SECTION W-17

LAWN REPLACEMENT

W-17.01 General

The Contractor shall replace all lawn areas which have been removed or damaged due to construction. Lawn replacement includes fine grading the areas to be restored and furnishing and placing topsoil, fertilizer, sod, sprigs, seeding, and maintaining all areas. Grassing and mulching or sodding lawn areas will be required as directed. Grassing shall be accomplished by seeding.

Sod shall be Argentine Bahia, St. Augustine, or other approved native grass sod, and shall be well matted with grass roots. It shall be sufficiently thick to secure a dense stand of live grass, with a minimum thickness of 2 inches. The sod shall be live, fresh and uninjured, and shall contain sufficient moisture at the time of planting to induce growth. The type and quality of sod shall be approved by the Engineer before placing.

Grass seed shall be Argentine Bahia, 60 #/acre from March 1 to November 1; 50 #/acre with 20 #/acre of rye grass seed from November 1 to March 1. Argentine Bahia seed shall be a scarified seed having a minimum active germination of 40% and total of 85%.

Mulch material shall be free of weeds and shall be oat straw or rye, Pangola, peanut, Coastal Bermuda or Bahia grass hay.

W-17.02 Topsoil

Where areas are to be restored by sodding, topsoil shall be placed to a minimum compacted depth of 2 inches over the subgrade. Where areas are to be restored by grassing, topsoil shall be placed to a minimum compacted depth of 4 inches over the subgrade. All topsoil shall be suitable excavated topsoil which has been segregated or other topsoil material approved by the Engineer. Topsoil shall be free from stones, roots, sticks, or other foreign substances.

W-17.03 Water

The Contractor shall furnish at his own expense all water required for lawn replacement and maintenance of the work until final acceptance.

W-17.04 Construction Methods

Prior to sodding or grassing, the Contractor shall fine grade the subgrade to 4 inches below finished grade. Topsoil shall be spread over the subgrade to a uniform depth and density. Topsoil shall be uniformly compacted by a light hand roller weighing between 250 and 750 pounds to the specified depths for sodding or grassing.

Immediately before sodding, 14-4-14 or 15-0-15 fertilizer shall be applied at the rate of approximately 600 pounds per acre, either in the furrows or by broadcasting and raking, into the planting area. After the surface has been properly prepared, the sod shall be placed and firmly embedded by light tamping. Additionally, dolomite (lime) shall be applied at a rate of 2 tons per acre.

Immediately after the sod has been planted, if the soil does not contain sufficient moisture to ensure growth, water shall be applied twice daily for the first week, once in the morning or late evening and once at approximately 2:00 P.M. Water shall then be applied once a day over the next 2 weeks and alternating days for an additional 2 weeks. If rooting has not taken place by the end of the third week, 1 daily watering shall continue until sod is firmly rooted.

One week after the sod has been planted, a complete fertilizer with minor elements shall be applied weekly at the rate of 1# nitrogen per 1,000 square foot in a 2-1-2 or 4-1-2 formula for a period of 4 weeks, and thereafter every 2 weeks for an additional 30 days. The ground shall not be wet when the fertilizer is applied but will be immediately watered after application of the fertilizer to remove it from the leaf area.

Prior to grassing, 14-4-14 or 15-0-15 fertilizer shall be applied to the soil at the rate of approximately 300 pounds per acre. Grass seed at the specified rate per acre shall then be raked into the soil and covered with mulching material. The area shall then be thoroughly rolled with approved equipment.

After the grass has been planted, if the soil does not contain sufficient moisture to ensure growth, water shall be applied as directed by the Engineer. After the grass has started growing, fertilizer shall be applied uniformly over the area weekly, at a rate of 0.5# nitrogen and potash per 1,000 square feet, until turf cover the area. The fertilizer shall not be applied unless the surface of the ground or sod is sufficiently moist to quickly dissolve the fertilizer.

W-17.05 Caretaking

The Contractor shall keep all replaced lawn areas in good, healthy, insect free, moist condition by watering, replanting or resodding, weeding, fertilizing, and cutting as specified, and directed by the Engineer.

END OF SECTION

DIVISION 2

SITE WORK

SECTION 02311
WATER QUALITY TESTING AND SAMPLING

PART 1 GENERAL

1.01 WORK INCLUDED

- A. This section describes the water sampling and water quality testing work to be performed under this Contract. CONTRACTOR will pay for the services of a local Florida Department of Environmental Protection (FDEP) certified water laboratory to perform water quality testing.

1.02 SUBMITTALS

- A. CONTRACTOR shall submit a statement of qualifications of Laboratory with an FDEP-approved quality assurance and quality control plan to ENGINEER for approval prior to sampling.

PART 2 PRODUCTS

2.01 WATER QUALITY SAMPLING PARAMETERS

- A. CONTRACTOR shall assist ENGINEER with collecting and shall coordinate and pay all associated laboratory costs for samples listed in Table 02311-1.
 - 1. During reverse-air drilling of RW-1, RW-2, RW-3, RW-4, and RW-5 and monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5 at 90-ft. intervals, as described in Section 02673, Drilling: List A in Table 02311-1.
 - 2. During packer testing, as described in Section 02987, Packer Testing: List B in Table 02311-1.
 - 3. Final background analysis upon completion and development of RW-1, RW-2, RW-3, RW-4, and RW-5 and monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5 as described in Section 02673, Drilling: List C in Table 02311-1.

PART 3 EXECUTION

3.01 LABORATORY DUTIES

- A. Provide water quality analysis as described in Paragraph 2.01, Water Quality Sampling Parameters above, in a timely manner as to permit data to be used to determine casing setting depths. Results are needed as quickly as possible for water quality samples as described above in order not to delay CONTRACTOR. A one (1) week turnaround time is required for all sample results except for the final background sample for each well. No standby time will be paid to CONTRACTOR for downtime resulting from ENGINEER waiting on laboratory results.
- B. Perform background water sample collection using properly trained personnel for water samples after development of each well.
- C. Promptly notify ENGINEER and CONTRACTOR of any irregularities in sample.
- D. Submit electronic copy in Adobe Acrobat PDF format of test results immediately after completion of testing. Reports must follow FDEP Standard Operating Protocols and shall include, as a minimum, the following information:
 - 1. Well identification
 - 2. Water sample identification showing sample depth
 - 3. Time and date of sample
 - 4. Laboratory name/telephone/address/QA-QC contact person
 - 5. Signature of inspector
 - 6. Methods of test
 - 7. Chain-of-custody receipts

3.02 WATER SAMPLES – RW-1 THROUGH RW-5 AND MONITORING WELLS MW-1 THROUGH MW-5

- A. During reverse-air drilling, CONTRACTOR shall collect representative water samples every 90-feet for field water quality analysis by ENGINEER. Samples shall be collected in clean plastic bottles, supplied by CONTRACTOR, with nonmetallic caps and of a capacity of not less than 16 fluid ounces. Each bottle and cap shall be rinsed twice with the water to be sampled before collecting the corresponding sample. Sample bottles for field water quality analysis shall be clearly labeled in an indelible way with the well identification, depth, time, and date. It shall be CONTRACTOR's sole responsibility to collect, protect, and deliver the water samples, properly labeled and stored after collection, to ENGINEER.

- B. In addition to samples collected every 90 feet for field water quality analysis by ENGINEER, a duplicate set of representative water samples will be collected every 90 feet for laboratory analysis as described above. Samples shall be collected in perfectly clean plastic bottles, supplied by the CONTRACTOR, with nonmetallic caps and of a capacity of at least 16 fluid ounces. Unless preserved, each bottle and cap shall be rinsed twice with water to be sampled before collecting the corresponding sample. CONTRACTOR is responsible for delivery to and compensation to the prescribed laboratory for all analytical services.
- C. Sample bottles for laboratory water quality analyses shall be clearly labeled in an indelible way with the well identification, depth, time, and date. It shall be CONTRACTOR's sole responsibility to collect, protect, and deliver the water samples, properly labeled and stored after collection, to the approved water testing laboratory in a timely manner.
- D. After completion of drilling and after development of RW-1 and monitor wells, CONTRACTOR shall arrange for collection and analysis of background water samples from the wells by the approved water laboratory. Samples shall be collected at the end of well development as directed by ENGINEER. CONTRACTOR shall notify ENGINEER and the laboratory 48 hours prior to the sampling event. Parameters analyzed for the determination of background water quality are listed in Table 02311-1 at the end of this section.

3.03 WATER SAMPLES – PAD MONITORING WELLS

- A. CONTRACTOR shall obtain water samples and levels each week from the water table monitoring wells during the course of all drilling and testing operations. CONTRACTOR is responsible for supplying any equipment needed for the sampling, including power. The wells shall be purged a minimum of three well volumes by CONTRACTOR prior to sampling. CONTRACTOR will be responsible for field testing the samples for specific conductance, pH, temperature, chloride, and water level until FDEP authorizes plugging and abandonment of the pad wells. Samples shall be collected in clean plastic bottles, supplied by CONTRACTOR, with nonmetallic caps and with a capacity of at least 16 fluid ounces. CONTRACTOR shall be responsible for supplying conductivity/ temperature meter, pH meter, and chloride titration kit to complete this work. Laboratory samples for total dissolved solids and chloride are required for 1 month (4 weekly samples) for the pad wells.

- B. Sample bottles shall be clearly labeled in an indelible way with the well identification, sample depth, sample time, and date.

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Table 02311-1
Standard Water Quality Sampling Parameters

List A	List B	List C
Chloride	All parameters in List A	All parameters in List A and
Total dissolved solids	Iron	B State primary DWSs ¹
(TDS) Sulfate	Calcium	State secondary DWSs ¹
Conductivity ²	Magnesium	Other Parameters ³
Temperature ²	Total Alkalinity	
pH ²	Total and Non-carbonate Hardness	
	Total Nitrogen	
	Total Kjeldahl Nitrogen	
	Ammonia Nitrogen	

¹ Drinking water standards (DWSs), including FAC 62-550 Table 1, Table 3, Table 4, Table 5, Table 6, Gross Alpha, Uranium, Radium 226 and 228, Uranium, Dioxin, Total and Fecal Coliform. Excluding Asbestos.

² Parameters measured in the field.

³ Any additional parameters listed in FDEP well construction permit that will require future monitoring at this location.

Summary of Sampling List Requirements:

List A- reverse-air samples

List B- packer test samples

List C- background samples, full suite

END OF SECTION

SECTION 02575
MECHANICAL INTEGRITY TEST

PART 1 GENERAL

1.01 WORK INCLUDED

- A. This section covers the work necessary to perform mechanical integrity testing of well RW-1 through RW-5. The following test will be conducted to determine that the wells have mechanical integrity (MI):
 - 1. Pressure test of the final 24-inch diameter casing string at RW-1 through RW-5. Each pressure test will include successful preliminary and final pressure tests.
 - 2. Background geophysical logging under static conditions including: temperature log, casing collar locator, natural gamma ray (GR) log, and color television survey.
 - 3. External mechanical integrity testing on the 24-inch diameter final casings using geophysical logging under dynamic conditions including: radioactive tracer survey (RTS) and GR log.
- B. Purpose: The purpose of the MI testing shall be to demonstrate that the well has adequate MI. Mechanical integrity shall be established as follows:
 - 1. Determine the absence of any well casing leaks by assessing internal mechanical integrity.
 - 2. There is no fluid movement through channels adjacent to the injection well bore (External MI).

1.02 SUBMITTALS

- A. CONTRACTOR shall submit certification that the pressure testing gauge has been calibrated within 90 days prior to testing. Calibration data shall accompany the certification and shall be provided to ENGINEER 10 days prior to MI testing.
- B. The tracer sodium iodide containing the radioactive isotope iodine 131 (131I) will be dated less than one half-life (8 days) at the time of actual use during testing. The geophysical logging subcontractor will be required to provide a

manufacturer's certification and other appropriate documentation to support this.

- C. Schematic of RTS tool with distances from ejector port to top, middle, and bottom gamma detectors.

PART 2 PRODUCTS

2.01 GEOPHYSICAL LOGGING AND VIDEO

- A. Furnish all labor, materials and equipment to provide static temperature log (up and down runs), casing collar locator (CCL), background natural gamma-ray log, and video from land surface to the current well completion depth. Logs will be performed in accordance with specifications Section 02679.

2.02 EXTERNAL MECHANICAL INTEGRITY

- A. Furnish all labor, materials and equipment to provide RTS and GR logging inside the 24-inch diameter steel casings.
- B. Provide all necessary temporary piping and valving, and calibrated flow meter to convey potable water to the wellhead to provide a consistent flow down the well at a velocity not to exceed 5.0 feet per minute inside the 24-inch diameter steel casing (approximately 108 gpm).
- C. The RTS tool will be equipped with one gamma radiation detector above and two detectors below the tracer ejector port.

2.03 PRESSURE TEST SETUP

- A. Furnish header sufficient to seal the drill pipe and wellhead prior to running the pressure test. CONTRACTOR's wellhead setup shall be approved by ENGINEER prior to use. Furnish a pressure testing gauge calibrated in 1 psi increments for pressure test. The gauge supplied shall have a calibrated range from 0 to 250 psi (or as approved by ENGINEER) with an accuracy of plus or minus 1/2 percent. CONTRACTOR's pressure gauge shall be approved by ENGINEER prior to use.

PART 3 EXECUTION

3.01 GUIDELINES

- A. Pressure testing shall be conducted no less than 48 hours after casing cementing.
- B. The CONTRACTOR will ensure all geophysical sondes will be calibrated within one (1) week of initiating testing activities. In addition, gamma ray detectors will be field calibrated by the geophysical logging Contractor upon mobilization.
- C. The CONTRACTOR will ensure that the sodium iodide tracer containing the radioactive isotope Iodine 131 (131I) will be dated less than one (1) half-life (8 days) at the time of actual use during testing. The logging subcontractor will be required to provide a manufacturer's certification and other appropriate documentation to support this requirement.
- D. The CONTRACTOR will ensure that all mechanical and digital gauges used for flow and pressure measurements will be calibrated within 90 days of actual testing. The drilling and/or logging Contractor will be required to provide acceptable documentation, including the calibration data and certification, to support this requirement.
- E. The CONTRACTOR will ensure that the RTS sonde shall be emptied of all tracer material in the open hole portion of the well prior to sonde removal from the well.
- F. CONTRACTOR will notify FDEP at least 72 hours prior to initiating RTS. No standby time will be awarded to the Contractor if waiting on FDEP due to failure to provide such notice.

3.02 BACKGROUND GEOPHYSICAL LOGGING

- A. Conduct static temperature, casing collar locator (CCL), and background GR logs in the injection well no more than 24 hours prior to MI testing. Background GR logs will be performed in the upward and downward directions.

3.03 BOREHOLE TELEVISION SURVEY

- A. The television survey will be conducted following successful completion of background geophysical logs at the instruction of the Engineer.

- B. A borehole color television survey of the entire recharge well to total depth (casing and open borehole) will be completed. The down-hole camera will be centered in the injection casing using appropriately sized centralizers. The down-hole camera will be capable of viewing down and to the side (90 degrees from vertical with rotation).
- C. Television clarity will be monitored and flushing the well with potable water may be necessary to enhance clarity.

3.04 EXTERNAL MI TESTING

- A. External MI testing via RTS and GR logging will be conducted following successful completion of background geophysical logging and the color television survey at the instruction of the Engineer.
- B. The RTS logging probe ejector port will be positioned approximately 5 feet above the base of the well casing. ¹³¹I with an activity of 1 mCi will then be ejected from the sonde during injection of reclaimed water into the injection well at a velocity not to exceed 5 feet per minute (approximately 108 gpm inside the nominal 24-inch casing). The downhole velocity will be calculated based on observed wastewater flow using a totalizing/direct read flowmeter. Ancillary equipment including transfer pump, valves, flowmeter and piping may be temporarily installed to provide a constant and sustainable flow of wastewater within this velocity range.
- C. With the sonde stationary, monitoring of potential upward migration of the plume external to the well casing will be conducted for at least 60 minutes under dynamic conditions.
- D. Following the end of the 60-minute monitoring period, the sonde will be raised, logging upward out of position at least 200 feet above the bottom of the casing. If upward movement of the tracer is detected, the initial 200 foot pass should be completed prior to conducting multiple passes at least 100 feet above and below the tracer slug.
- E. Prior to conducting additional tests, flush the tracer down-hole with potable water into the injection zone below the base of the casing.
- F. GR logging will be conducted in the interval from below the base of the casing to approximately 100 feet above the base of the casing; gamma ray counts

per second must correlate reasonably with the background GR log prior to proceeding with additional tests.

- G. Repeat test except the monitoring period shall be 30 minutes.
- H. A final GR log will be run from the base of the casing to land surface.
- I. The results of the external MI test will be reviewed with FDEP representative(s) in the field (if present). If anomalous data is observed or movement of tracer behind the casing is suspected, the external MI test may be repeated, to resolve questionable observations and confirm the injection well external MI members of the Engineer and the FDEP will be the sole judges on adequacy of the testing and results for demonstrating external MI.

3.05 PRESSURE TESTING

A. MI Testing:

1. Perform pressure test following cementing final injection casing. Utilize cement plug in base of well prior to drilling out open-hole interval below. If the cement plug is not satisfactory to pass the test, the CONTRACTOR shall install an inflatable packer near the base of the casing at their own expense. For FRP casing, an inflatable packer will be used to conduct the pressure test.
2. Install header assembly and pressure gauges on the well. The pressure gages shall be calibrated within 90 days prior to testing and shall be capable of indicating pressure within 1.0 psi of anticipated testing pressures.
3. Run pressure test at 150 psi or as directed by ENGINEER for a one (1) hour duration and monitor wellhead pressure within the casing. If less than a 5 percent (plus or minus) change occurs over the 1-hour testing period, the well has demonstrated internal MI. If the pressure change exceeds 5 percent (plus or minus), the CONTRACTOR shall locate the leak and make repairs or corrective actions in a manner satisfactory to the ENGINEER and the pressure test will be re-run until it passes.

END OF SECTION

SECTION 02671
PAD MONITORING WELLS

PART 1 GENERAL

1.01 WORK INCLUDED

- A. This section covers the work necessary to construct pad (water table) monitoring wells, complete, near each corner of each drilling site as approved by FDEP.
- B. CONTRACTOR shall furnish all labor, materials, tools, and equipment necessary to drill and complete the wells, including drilling, casing, sealing, gravel pack, completion of wellhead, vault, and all other work required to complete the work as specified herein and as shown on the Drawings.
- C. The total depth of the well is anticipated not to exceed 40 feet.
- D. When complete, this project will provide the City with four wells around each drilling site as approved by FDEP, to enable water level and water quality monitoring of the water table at the site.

1.02 SUBMITTALS

- A. CONTRACTOR shall furnish, as a minimum, the manufacturer's specifications on the PVC casing and screen used for the water table monitoring wells.
CONTRACTOR shall deliver submittals to ENGINEER in accordance with Section 01300, Submittals.

PART 2 PRODUCTS

2.01 PVC PIPE

- A. PVC pipe shall be the size shown on the Drawings and meet all the requirements of Schedule 40 PVC pipe in ASTM D1785. The screen sections of 2-inch PVC pipe shall have three slots perpendicular to the pipe axis on 120-degree centers. Slot size of screen shall be 0.010-inch, horizontal slotted. Screens shall be approximately 5 to 10 feet in length. Casing shall be made available in 2-, 5-, and 10-foot lengths so that the proper amount can be installed without cutting.

2.02 PVC PIPE JOINTS

- A. PVC pipe joints shall be flush joint, threaded, leakproof with machined ends. No solvent cements shall be used.

2.03 SAND (GRAVEL) PACK

- A. Sand for packing around the PVC pipe shall be free from roots, trash, and other deleterious material. Sand shall be purchased in sealed bags, unopened until placed in the well. Sand size shall be 20/30. The material shall be reasonably well graded.

2.04 BENTONITE

- A. Bentonite required for sealing of the well shall be in a pellet form and shall be those commonly used as seals in monitoring wells. A fine sand seal may be used with concurrence by ENGINEER.

2.05 CEMENT

- A. Cement must conform to ASTM C150, Type II. The proportion of cement to water shall be five bags cement per cubic yard of grout to not more than 6 gallons of water per bag of cement.

2.06 WELLHEAD COMPLETION

- A. All pad monitoring wells are to be completed with above grade completion with protective steel casing or flush-mount and concrete pad completion, at the discretion of the ENGINEER.

PART 3 EXECUTION

3.01 WELL DRILLING

- A. The pad monitoring wells shall be drilled to the approximate depth and diameter shown on the Drawings, and as designated by ENGINEER. The wells shall be drilled by the hollow stem auger method or by alternative method as approved by ENGINEER. The well shall be field located by ENGINEER.
- B. The depth of the monitoring wells as shown on the Drawings has been determined using the best information available. ENGINEER shall determine the screen depth interval and reserves the right to increase or decrease the depths slightly as field conditions dictate. The wells shall be installed prior to any drilling activities at all wells as contained herein.

3.02 PVC CASING/SCREEN ASSEMBLY INSTALLATION

- A. Following completion of the borehole to its total depth, the casing/screen assembly shall be installed. The casing/screen assembly shall be centered in the borehole. The assembly shall be suspended above the bottom of the hole so that it does not sit on the bottom. The casing sections shall be jointed watertight by use of flush-joint threaded pipe.

3.03 INSTALLATION OF SAND PACK

- A. Sandpack material shall be placed in the annular space gradually by slowly pouring one sack at a time, or in an approved alternate manner to prevent bridging. Sandpack material shall be placed to an elevation approximately two (2) feet above the uppermost perforation in the well screen as approved by ENGINEER. The top of the sandpack depth shall be recorded by CONTRACTOR.

3.04 INSTALLATION OF BENTONITE SEAL

- A. The bentonite pellets or fine sand seal shall be placed in the annular space by CONTRACTOR in a manner that shall produce a minimum 6-inch thick seal to isolate the sandpack below from the cement grout above. If a fine sand seal is used, the sand shall be a minimum of 12 inches thick.

3.05 INSTALLATION OF CEMENT GROUT

- A. Following placement of the bentonite seal, neat cement grout shall be tremied in the annular space from the bottom of the remaining annulus to the land surface in such a manner as shall ensure the complete filling of the annular space in one operation in accordance with Section 02677, Grout Seal.

3.06 WELL DEVELOPMENT

- A. Following placement of the casing screen assembly and gravel pack, the well shall be developed by CONTRACTOR by airlift pumping or an alternative method approved by ENGINEER. Development shall continue until clean, uncontaminated formation water is being produced from the well. ENGINEER will be the sole judge of when this condition is met.

END OF SECTION

SECTION 02673
DRILLING

PART 1 GENERAL

1.01 WORK INCLUDED

- A. This section covers the work, materials, and equipment necessary for drilling and sampling of boreholes by the rotary method, complete, during the drilling activities.

PART 2 PRODUCTS

2.01 GENERAL

- A. All equipment shall be in good operating condition and operated and maintained in strict conformance with manufacturer's recommendations.
- B. CONTRACTOR shall provide a drilling pad to control all fluids from discharge on site during drilling operations. The pad design shall be proposed by CONTRACTOR and approved by ENGINEER prior to commencing with drilling activities. No mud pits will be allowed on site.

2.02 DRILLING EQUIPMENT

- A. CONTRACTOR shall provide appropriate rotary drilling rig(s) capable of completing the wells as described in these specifications and as shown on the Drawings. Provide tools, bits, and all other necessary equipment for drilling. The head on the well shall be controlled by CONTRACTOR at all times during all drilling phases. Upon penetration of the UFA drilling shall be through a Washington Rotating Head and blow-out preventer (BOP) or other approved rotating header assembly.
- B. Standard Mud Rotary and Reverse-air drilling techniques shall be utilized. Other drilling techniques shall require ENGINEER's approval prior to use.

2.03 DRILLING FLUID

- A. Bentonite drilling mud, and other additives as approved by ENGINEER, shall be used to advance the borehole. Water used by CONTRACTOR during drilling

must be from an ENGINEER-approved potable water source. Additives and fluids are also subject to approval by the regulatory agencies.

- B. CONTRACTOR shall use only drilling fluids and additives specifically recommended by the manufacturer for use in water well drilling. Avoid contamination of the samples or the aquifer. Do not introduce muds, clays, or drilling aids into the well or use lime, cement, organic matter, or other material to stop circulation losses of the drilling fluid, without reviewing the proposed program with ENGINEER.
- C. Off-site discharges of fluids during the well construction and testing shall be controlled by CONTRACTOR at all times. Drilling mud and cuttings generated during mud rotary drilling shall be retained within steel mud tubs. Unlined or plastic lined pits shall not be allowed. Reverse-air drilling fluids and development water shall be re-circulated into the well.
- D. Water will require settling to reduce turbidity prior to re-circulation of water into the well. ENGINEER must approve methods of settling excess suspended solids from water generated during drilling prior to re-circulating into the well. No discharges are allowed without the ENGINEER's approval.

2.04 TEST AND SAMPLING EQUIPMENT

- A. The CONTRACTOR shall:
- B. Provide equipment for measuring drilling fluid properties.
- C. Provide approved sampling bags or containers for formation samples.
- D. Provide approved one-liter clean sample containers for groundwater sampling during drilling and testing.
- E. Provide equipment for measuring flow rates and water levels during the short-term specific capacity tests.

PART 3 EXECUTION

3.01 DRILLING

- A. CONTRACTOR shall notify the ENGINEER five working days (Saturdays, Sundays, and federal holidays excepted) prior to drilling.

- B. CONTRACTOR shall provide at all times a thoroughly experienced, competent, and licensed driller during all drilling operations at the site. CONTRACTOR's drilling superintendent shall be onsite during all phases of drilling and testing activities.
- C. CONTRACTOR shall construct the well in strict conformance with all laws, rules, regulations, and standards related to the construction of the wells in the State of Florida, Hillsborough County, and SWFWMD. All other required construction permits shall be the responsibility of and obtained by CONTRACTOR prior to initiating drilling.
- D. CONTRACTOR shall coordinate all drilling and sampling equipment prior to initiation of drilling. Drill the boreholes to the dimensions described in these Specifications or as approved by ENGINEER. Final well depths shall be determined by ENGINEER in the field.
- E. CONTRACTOR shall drill the boreholes so as to permit the installation of the casing straight and plumb, to the tolerances specified in Section 02674, Casing.
- F. CONTRACTOR shall take all necessary precautions to prevent contaminated water, gasoline, or other deleterious substances from entering the well, either through the opening or by seepage through the ground surface. Maintain precautions during and after construction of the well until accepted by the City.
- G. The wells shall be drilled by the rotary method using mud rotary circulation through the unconsolidated formations to a depth of approximately 200 feet. Reverse-air closed circulation shall be used below the depth of approximately 200 feet to total depth of the wells unless otherwise approved by ENGINEER.
- H. Borehole Preparation for Geophysical Logging shall include but is not limited to: 1) continuation of circulation until drill cuttings and fines have been removed from the borehole and 2) circulation of the drilling mud in the borehole until drill cuttings have been removed from the well and the mud is uniform and conditioned for geophysical logging.
- I. The CONTRACTOR must make all reasonable efforts to leave the borehole free from obstructions in preparation for geophysical logging.

- J. Drill the boreholes to the dimensions and depths shown on the well construction drawings. The exact depths will be determined by ENGINEER in the field.
- K. Pilot holes through confining intervals will be back plugged with cement prior to reaming as specified in Section 01010 Summary of Work and 02677 Grout Seal.
- L. When re-circulating formation water during closed-circulation reverse-air drilling, CONTRACTOR shall allow proper settlement time to prevent cuttings from entering the well as directed by ENGINEER.
- M. A Washington Rotating Head or comparable assembly, and a blowout preventer (BOP), capable of containing artesian pressure in the well, shall be placed at the wellhead ready for service at all times when drilling in zones with artesian flow. The CONTRACTOR shall demonstrate proficiency in using the BOP to the satisfaction of the ENGINEER. The BOP shall be capable of closing in the well in such time as to prevent any discharge of fluids from the drilling pad.
- N. It is the intent of this Contract that no drilling fluids or waters developed during construction be allowed to escape the confines of the drilling pad. The pad sump drain must be capped off until completion of the well.
- O. During reverse-air drilling, CONTRACTOR shall establish a static water level prior to commencement of drilling operations each day, or as directed by ENGINEER. Water level shall be monitored periodically and recorded on the daily drilling report.

3.02 DRILLING LOGS

- A. The CONTRACTOR shall:
 - 1. Furnish ENGINEER daily with a daily report. The report shall include tabulation of quantities for each unit price pay item and a description of all approvals made by ENGINEER. The report shall accurately describe the geologic materials and depths encountered; the location of lost-circulation zones and methods of regaining circulation; water producing zones; drilling rates; diameters and lengths of casing installed; and time, depth, and description of any unusual occurrences

or problems during drilling. The report shall give shutdown and standby time with explanation, the water level at the beginning of daily operations, types and diameters of bits used, and such other pertinent data as may be requested by ENGINEER. Include full names of CONTRACTOR employees and Specialty Subcontractors working at or visiting the site.

2. Keep a copy of the daily drilling report at the drill site for inspection by the ENGINEER. Keep the report up-to-date with the progress of drilling and other activities. The report shall be signed by the CONTRACTOR at the completion of each day's drilling. Failure to keep this record up-to-date shall be grounds for the ENGINEER to stop drilling operations without compensation or additional contract time awarded to the CONTRACTOR. Assist ENGINEER with weekly submittals of drilling reports to FDEP as required by the Injection Well Construction Permit.
3. If requested by ENGINEER, furnish, maintain, and operate a continuous strip-chart for drilling rate, bit weight, and footage recorder such as a Geographical recorder, or equal, on the drilling rig. Submit copies of the strip charts to ENGINEER daily.
4. File all drilling and well records and reports with the proper agencies required by federal, state, and local permits, codes, or regulations. Assist ENGINEER, as necessary, with any additional well completion reports required by the regulatory agencies.

3.03 BOREHOLE TESTING AND SAMPLING

- A. CONTRACTOR shall drill boreholes of the diameters and to the total depth of the well as determined in the field by ENGINEER. Sampling shall be conducted on the nominal 8 to 12-in. diameter pilot holes drilled during each phase of the well construction, or as otherwise determined by ENGINEER.
- B. Formation samples shall be logged and circulated from the borehole so to provide representative samples to the extent possible during advancement of the borehole. CONTRACTOR shall control advancement and reveal the rate of penetration information and hydraulic information to ENGINEER periodically and at changes in the drilling response. CONTRACTOR shall not

be compensated for cores or other samples that are conducted at the CONTRACTOR's discretion to assist with drilling operations that are outside of the scope of work and direction of the ENGINEER.

- C. Representative formation samples shall be collected between 10 feet BLS to the total depth of each well drilled. The method must yield samples that are representative of the actual depth to which drilling has progressed. Each formation sample shall be approximately one pint in volume. CONTRACTOR shall place each sample in a container labeled with the date, well identification, and depth interval from which the sample was taken clearly marked on the container using indelible ink. Submit one set of samples to ENGINEER's construction trailer immediately upon collection. The second set of formation samples shall be kept in cloth bags which will be secured by CONTRACTOR for the FGS, 903 W. Tennessee Street, Tallahassee, FL 32304. After being put in containers and properly labeled, CONTRACTOR shall deliver one set to the FGS upon completion of each well.
- D. CONTRACTOR shall collect a representative water quality sample approximately every 90 feet between samples during reverse-air drilling operations, as approved by ENGINEER. CONTRACTOR shall conduct a short-term (approximately 15 to 30 minute duration) air-lift, specific capacity test prior to each water sample collected during reverse-air drilling operations. A flow measuring device shall be installed by CONTRACTOR to monitor discharge quantities during drilling operations to within 10 percent of actual values. CONTRACTOR is responsible for measuring and recording pumping rate and well water level drawdown during tests. It is anticipated that each specific capacity test will take approximately 15 to 30 minutes. Water level instrumentation must be capable of measuring water levels of 50 feet above or 200 feet below the drilling table during the specific capacity testing. Tests shall be conducted in presence and under the direction of ENGINEER unless otherwise directed by ENGINEER.
- E. CONTRACTOR shall make available access to each well during construction for water level measurements by ENGINEER when requested. No daily drilling activities shall commence until static water level has been obtained to the satisfaction of ENGINEER.

3.04 DISPOSAL OF CUTTINGS AND WATER

- A. CONTRACTOR shall remove from the drill site all cuttings, mud rotary drilling fluid, and other material removed by drilling operations which are required to complete the Work. Dispose of such material at a location and in a manner approved by ENGINEER. Solid materials shall be disposed of by hauling to an FDEP approved site. CONTRACTOR shall submit to ENGINEER a letter from the disposal facility stating FDEP approval.
- B. Tanks shall be of sufficient size to allow for specific capacity testing and packer testing without the re-introduction of fluids into the well during such testing. A minimum of 100,000 gallons of storage is required during all drilling testing activities unless otherwise approved by ENGINEER. No discharge to land surface of drilling fluid or saltwater will be allowed at the site.
- C. CONTRACTOR shall be responsible for providing, installing, and maintaining all necessary tank trucks, pipe, pumps, and equipment necessary to pump and haul excess pad drainage, drilling fluid and pumped water to an FDEP-approved predetermined disposal site, in accordance with federal, state, and local regulations.
- D. CONTRACTOR shall drill using closed circulation techniques during reverse-air drilling. Any exceptions must be pre-approved by ENGINEER.
- E. During closed circulation drilling below the final casing setting depth, CONTRACTOR shall take precautions to minimize suspended solids from re-entering the well.

3.05 ALIGNMENT REQUIREMENTS

- A. Pilot holes and reamed holes shall be drilled round and straight throughout.
- B. A mechanical drift indicator shall be run in pilot holes and reamed holes at intervals not greater than 90 feet. Tool scale shall clearly delineate 10 minutes or less. Any deviation in plumbness greater than 1 degree shall be corrected by CONTRACTOR at his own expense.
- C. ENGINEER may modify the requirements for plumbness and straightness if, in his judgment:

1. Deviations are due to subsurface conditions and CONTRACTOR has exercised all possible care to avoid deviations; and
2. The deviations will not materially affect the usefulness or performance of the well or further drilling operations, pumps, and future testing.

END OF SECTION

SECTION 02674 CASING

PART 1 GENERAL

1.01 WORK INCLUDED

- A. This section covers the Work, materials, and equipment necessary for furnishing and installing the well casing and all related fittings, appurtenances, and transition adapters, complete.

1.02 SUBMITTALS

- A. The casing manufacturer's mill certificates shall be required for each joint of casing used during construction of the injection wells and monitoring wells before pipe is delivered to site. Any casing joint not having legible, traceable identification will be rejected. CONTRACTOR shall deliver submittals in accordance with Section 01300, Submittals.

PART 2 PRODUCTS

2.01 GENERAL

- A. Provide all materials and equipment necessary for joining and installing the casing and appurtenances as specified. CONTRACTOR shall provide all casing of the types, thicknesses, diameters, and weights as specified. All casing shall be of new, first quality material and free of defects in workmanship and handling. Casing sizes and thicknesses shall be as follows:

TABLE 02674 - 1 CASING

Proposed Casing Selection for the City of Tampa HFCWTP Recharge Well System

Nominal Diameter (in.)	Casing and Interval	Approx. Total Length ¹ (feet BLS)	Inside Diameter (in.)	Outside Diameter (in.)	Wall Thickness (in.)	Weight (lb/ft)	Casing Material
Recharge Well(s) (RW-1 through RW-5)							
48	Pit Casing to isolate the unconsolidated surficial	50	47.25	48.00	0.375	190.92	Carbon Steel
42	Surface Casing to isolate the Hawthorn Group	200	41.00	42.00	0.500	221.82	Carbon Steel
34	Intermediate Casing to isolate the fresh	450	33.00	34.00	0.500	179.06	Carbon Steel

TABLE 02674 - 1 CASING

Proposed Casing Selection for the City of Tampa HFCWTP Recharge Well System

Nominal Diameter (in.)	Casing and Interval	Approx. Total Length ¹ (feet BLS)	Inside Diameter (in.)	Outside Diameter (in.)	Wall Thickness (in.)	Weight (lb/ft)	Casing Material
	permeable zones to base of USDW						
24	Final Casing through the Ocala Limestone and Upper Avon Park Confining Interval	650	23.00	24.00	0.500	125.61	Carbon Steel
Monitoring Well(s) (MW-1 through MW-5)							
24	Pit Casing to isolate the unconsolidated surficial	50	23.25	24.00	0.375	94.71	Carbon Steel
16	Surface Casing to isolate the Hawthorn Group	200	15.25	16.00	0.375	62.64	Carbon Steel
8-5/8	Final Casing	350	7.84	8.73	0.30	7.6	FRP ¹

Abbreviations: Below land surface (BLS); Inches (in.); pounds per foot (lb/ft); Underground source of drinking water (USDW); Fiberglass reinforced plastic (FRP)

Notes:

1 – FRP specifications from Future Pipe Industries Redbox 1000 nominal size 8-5/8-inch. Max box O.D. per recommendations of manufacturer for application proposed.

2.02 WELL CASING

- A. CONTRACTOR will install a shallow pit casing for the wells. The purpose of the pit casing is to prevent undermining of the drilling pad during initial drilling and casing setting activities. CONTRACTOR shall select the grade of pipe for this purpose; however, pipe selected is to be of sufficient strength to hold the drilled hole open until the first casing string is set and cemented. The pit casing must be grouted into place at all wells. All pit casings shall be installed to such a depth as CONTRACTOR judges necessary to prevent washout or undermining of the drilling pad during construction of the wells. CONTRACTOR shall exercise care not to disturb existing structures adjacent to the work area.
- B. All surface and intermediate casings for all wells and the associated monitoring wells shall be new and unused carbon steel pipe, shall be seamless, electric resistance welded, or double submerged arc welded with

one longitudinal seam, and shall conform to the latest revision of ASTM A139, Grade B.

- C. Final casing strings in the recharge wells shall be new and unused carbon steel pipe and shall be seamless, and shall conform to ASTM A53, and/or API 5L, Grade B, latest revision. Ends of plain end pipe shall be perfectly square and shall be furnished beveled for field V-notch butt welding.
- D. Steel casings shall be equal to those manufactured by U.S. Steel Company; or equal. Casings shall be furnished uncoated, except that ends may be coated for protection.
- E. Casing that is delivered to the site in a condition which will not yield an acceptable cement bond shall be sandblasted prior to installation. ENGINEER shall determine when the casing is suitable for installation.
- F. Fiberglass Reinforced Plastic (FRP) casing shall be Future Pipe Industries GeoStrong Red Box 1000. Casing shall be installed by manufacturer certified make-up service. All thread lubrication materials must be NSF approved for use in potable water well applications.
- G. Lengths of casing specified above are approximate. Exact lengths shall be determined in the field by ENGINEER.

2.03 FITTINGS

- A. CONTRACTOR shall provide all fittings, drive shoes, and centering guides as necessary to complete the well. All fittings, drive shoes, and centralizers will be constructed of the same material as casing.
- B. Casings shall be provided with the following minimum accessories:
 - 1. Centralizers at 5 feet above the bottom end
 - 2. Centralizers at 25 feet above the bottom end
 - 3. Centralizers at 50 feet above the bottom end
 - 4. Centralizers at 100 feet above the bottom end
 - 5. Centralizers every 100 feet thereafter to nearest 100 feet from pad surface
- C. Casing centralizers shall be spaced at 90 degrees around the casing at each interval and shall be constructed of the same material as the casing attached.

Their concave surface shall be against the casing. Centralizers shall be installed in a vertical line to facilitate the installation of tremie pipes for grouting.

- D. Centralizers for steel casing shall be manufactured by Pathfinder Oil Tool, Lawton, OK; Halliburton Company, Duncan, OK; Dowell of Tulsa, OK; or approved equal; or may be fabricated in the field from the same material as the casing to which they are welded. Centralizers shall be aligned vertically to facilitate cementing of tubing and casing by tremie methods, allowing tremie lines to be installed near the targeted cementing depth.

PART 3 EXECUTION

3.01 GENERAL

- A. All casing shall be installed by a method appropriate to the attached drawings, as selected by CONTRACTOR and approved by ENGINEER. The casing must be new, unused, and clean as approved by ENGINEER.
- B. Casing lengths shall be flush joint and joined watertight by a method appropriate to the material used, as selected by CONTRACTOR and approved by ENGINEER, so that the resulting joint shall have the same structural integrity as the casing itself. Any couplings shall be API or equivalent, made up so that when tight, all threads shall be buried in the lip of the coupling. No solvent or fusion welding of plastic pipe shall be permitted.
- C. Casing that fails, collapses, or separates during construction shall be removed from the hole and repaired or replaced at the CONTRACTOR's sole expense.
- D. Pressure Test: Successfully perform pressure test on each Recharge Well in accordance with Section 02575, Mechanical Integrity Testing. Failure of CONTRACTOR to successfully pass the pressure test shall result in CONTRACTOR, at their sole expense, proposing an alternate method of demonstrating casing integrity, up to and including CONTRACTOR setting a packer at the base of the casing and re-running the test until a successful pressure test is passed. In the event that the specified pressure cannot be maintained, corrective measures shall be undertaken by CONTRACTOR until the test is satisfactorily accomplished. The casing pressure test shall be witnessed by ENGINEER or his representative and the FDEP.

3.02 WELDING PERFORMANCE QUALIFICATIONS

- A. All welders and welding operators shall be certified at CONTRACTOR's sole expense by a qualified testing laboratory before performing any welding under this section. Qualification tests shall be in accordance with Section IX, Article III of the ASME Boiler and Pressure Vessel Code. Welders and operators shall be qualified for making groove welds in carbon steel and stainless steel pipe in positions 2G and 5G for each welding process to be used.

3.03 END PREPARATION

- A. Pipe ends shall be prepared preferably by machine shaping. Beveled ends for butt welding shall conform to ANSI B16.25.

3.04 CLEANING

- A. Surfaces shall be clean and free of paint, oil, rust, scale, slag, or other material detrimental to welding.

3.05 ALIGNMENT AND SPACING

- A. Align ends to be joined within existing commercial tolerances on diameters, wall thickness, and out-of-roundness. Root opening of the joint shall be as stated in the procedure specification.
- B. The shielded metal-arc process shall be used for all carbon steel field welding.
- C. No welding shall be performed if there is impingement of any rain or high wind on the weld area, or if the ambient temperature is below 32 degrees F. If the ambient temperature is less than 32 degrees F, local preheating to a temperature warm to the hand is required.
- D. Tack welds, if not made by a qualified welder using the same procedure as for the completed weld, must be completely removed. Tack welds which are not removed shall be made with an electrode that is the same as, or equivalent to, the electrode to be used for the first weld pass. Tack welds that have cracked shall be removed.
- E. Each layer of deposited weld metal shall be thoroughly cleaned prior to the deposition of each additional layer of weld metal, including the final pass, with a power-driven wire brush. Surface defects which will affect the soundness of weld shall be chipped out or ground out.

- F. There shall be a minimum of three weld passes on pipe sizes 6 inches and larger. There shall be a minimum of a full root and second pass on all welded pipe 4-in. and under.
- G. Welded joints shall be allowed to cool before weld is placed in contact with water. CONTRACTOR may lower the static water level in the well to prevent submersion of the weld while the next joint of pipe is being welded or may use temperature indicating sticks or non-contact IR temperature instruments to demonstrate the weld area is <400 degrees F before submersion.

END OF SECTION

SECTION 02676
CORING

PART 1 GENERAL

1.01 WORK INCLUDED

- A. This section covers the work necessary to drill and collect core samples, complete.

PART 2 PRODUCTS

2.01 GENERAL

- A. Provide all materials and equipment necessary for drilling, collecting, and storing the core samples as specified.

2.02 CORE BARREL AND BIT

- A. Vertical Cores: The core barrel and bit shall be of the appropriate sizes to recover 4-in. diameter cores. Length of the core barrel shall not be less than 10 feet.

2.03 CORE BOXES

- A. Cores shall be stored at the site in sturdy wooden boxes of the proper size for the diameter of core collected. Each core box shall hold no more than 10 feet of 4-inch core. Each core box shall be clearly and permanently labeled with the depth, the top, and the bottom of the core section contained therein. The box shall be prepared for shipping prior to delivery to ENGINEER.
- B. In the event recovered material is not continuous, partitions shall be inserted into the core box to keep core material separate and in sequence. Such partitions shall have clearly labeled the depth and interval of the core specimen.

PART 3 EXECUTION

3.01 GENERAL

- A. Cores of strata penetrated shall be taken during the drilling of pilot holes at selected depths determined by ENGINEER between the following approximate depths:

1. Recharge Wells– Five between approximately 200 and 1,300 feet BLS.
- B. The exact number, depths, and length of the interval to be cored may be changed by ENGINEER based on subsurface conditions.
- C. The method of coring and the sequence of coring and reaming the hole to full diameter is subject to ENGINEER's approval and shall conform to the requirements stated in these Specifications.
- D. CONTRACTOR shall obtain an acceptable core at each interval selected to be cored by ENGINEER before proceeding with the next drilling activity.
- E. Drilling of the pilot hole shall be stopped to collect these core samples, but no standby time shall be charged for coring. A core barrel shall be advanced by being rotated its full length into the undisturbed formation. Once the core barrel has penetrated the desired interval, it shall be withdrawn and the core recovered, stored, and delivered to the ENGINEER for analysis and evaluation prior to shipment at CONTRACTOR's expense to an approved laboratory for analysis. Two samples from each core will be analyzed at the laboratory.
- F. The laboratory analysis of each core sample shall include the following: measurement of the specific horizontal and vertical water permeability, the total porosity, and specific gravity. The total laboratory costs shall be included in the unit rate for coring shown in the Bid Schedule for coring. Shipping the cores to the lab shall be the responsibility of the CONTRACTOR.
- G. A qualified core laboratory experienced with analysis of Florida geology, as approved by ENGINEER. The proposed laboratory must be identified prior to coring for approval by ENGINEER. The ENGINEER, at its discretion, and at any time, may reject a core laboratory and request other choices of core laboratories.
- H. Results from the core laboratory shall be obtained and given to ENGINEER as quickly as possible as to not delay drilling operations. It is CONTRACTOR's responsibility to forward the cores and keep track of the testing schedule of the cores so that drilling operations are not delayed. One electronic copy of the final core laboratory report is required.
- I. If required by the Engineer, at the end of the project the CONTRACTOR is responsible for shipping cores to the Florida Geologic Survey in Tallahassee, Florida. Contact: David Paul, P.G., Geological Sample Acquisition &

Management Section, Florida Geologic Survey, Florida Department of
Environmental Protection, 3915 Commonwealth Blvd., Tallahassee, FL 32399
(850) 245-3131 David.Paul@dep.state.fl.us

END OF SECTION

SECTION 02677
GROUT SEAL

PART 1 GENERAL

1.01 WORK INCLUDED

- A. This section covers the work, materials, and equipment necessary for furnishing and installing the grout seal.

1.02 SUBMITTALS

- A. Specifications on any grout used to cement the annular space.
- B. Densometer charts, when requested by ENGINEER.
- C. CONTRACTOR shall deliver submittals to ENGINEER in accordance with Section 01300, Submittals.

1.03 NOTIFICATIONS

- A. CONTRACTOR shall be responsible for notifying all other agencies as required which may need to witness grouting. These may include FDEP, SWFWMD, local Health Departments, etc.

PART 2 PRODUCTS

2.01 GENERAL

- A. CONTRACTOR shall provide grout, additives, bentonite, and any other materials and equipment necessary for placement of the grout as specified and as directed by ENGINEER. Drill pipe, tremie line, water source and other materials and equipment necessary to complete the work specified shall be provided by CONTRACTOR.

2.02 PORTLAND CEMENT

- A. Must conform to ASTM C 150, Type II or Type 1L.

2.03 GRAVEL

- A. Must conform in size to SWFWMD rules, regulations, or permit conditions for well abandonment and the borehole/casing diameter. Fine gravel or sand shall only be used during grouting activities if approved by ENGINEER and FDEP.

2.04 BENTONITE AND OTHER ADDITIVES

- A. Furnish all bentonite required for cementing in the proportions specified in the Bid Schedule and as directed by ENGINEER. Furnish other cementing additives formulated specifically for well cementing as required by ENGINEER.

PART 3 EXECUTION

3.01 CEMENT GROUT MIX

- A. CONTRACTOR shall portion 1-ft³ of cement (i.e., one sack) to not more than 5.8 gallons of potable water. All grout shall have zero percent free water when pumped.

3.02 ADDITIVES

- A. The use of special cements or other admixtures (ASTM C494) to reduce permeability, increase fluidity, and/or control set time and the composition of the resultant slurry must be approved by ENGINEER. A high shear mixer shall be used by CONTRACTOR for additives and totally hydrated to a smooth slurry before adding cement. For each grout batch, about 5 to 10 percent of the mixing water shall precede the other components. Consistency and method of mixing shall be reviewed by ENGINEER prior to grouting.
- B. If grouting is to be performed by a Subcontractor, the service company shall specialize in the field of grout sealing and cementing of water, and wastewater wells. The service company shall provide on-site, during cementing operations, the services of a technical representative with demonstrated experience in the field and area related to this project. The cement service company shall be subject to approval by ENGINEER based upon their experience in Florida.
- C. CONTRACTOR shall furnish all bentonite and other cementing additives required for cementing in the proportions specified in CONTRACTOR's Bid Schedule and as directed by ENGINEER.
- D. A standard mud balance shall be used by CONTRACTOR to measure consistency of slurry density. Cool clean potable water shall be used to mechanically mix

with cement at the site immediately before placement. Consistency and mixing shall be approved by ENGINEER.

3.03 PLACING

- A. The method of grout placement must force grout from the bottom of the space to be grouted to the surface. The grouting shall be done continuously and in such a manner as shall ensure the entire filling of the borehole, well, and annular space and ensure a watertight seal around the well casing to avoid downward or upward movement of water along the casing annulus and borehole.
- B. All cementing of casing shall be accomplished in the presence of ENGINEER or his representative. If cementing activities require observation by a SWFWMD, FDEP, or other regulatory agency representative, as determined by the ENGINEER, CONTRACTOR shall coordinate cementing activities to accommodate this requirement at no additional cost to the City.
- C. The initial grout stage for each casing shall be conducted by the pressure grout method. Alternative methods of grouting must be approved by ENGINEER.
- D. If additional stages of grout are required, grout will be pumped through tremie pipe installed in the annulus within five feet of the top of the previous grout tag in the well, as approved by ENGINEER. A single tremie pipe with a minimum diameter of 2-inches shall be used, other methods must be approved by ENGINEER.
- E. Staging and use of gravel, thixotropic, or other high-yield cement types with special additives shall be required through highly permeable intervals, if approved by ENGINEER and FDEP. The gravel shall be introduced at a metered uniform rate in the manner to be approved by ENGINEER and that shall allow even placement of the gravel. Every precaution shall be taken by CONTRACTOR to ensure placement without bridging of the materials as they are introduced into the well.
- F. ENGINEER shall inform CONTRACTOR of the amount and type of cement to be used prior to each cementing operation. CONTRACTOR shall submit to ENGINEER 48 hours before cementing starts a detailed schedule for the complete operation including capacity of the pump and equipment to supply and mix cement slurry. During each cement stage pumped, grout samples

shall be collected by CONTRACTOR and checked for density by a pressurized fluid density balance and by a recording Radiometric Densometer, or as otherwise approved by ENGINEER. These grout samples must be collected a minimum of three times for each cement batch pumped: before pumping, near the middle of the batch, and near the end of the batch. The slurry density determination shall be conducted in accordance with the latest edition of API Spec 10. Slurry density determined in the field shall be compared with the specified slurry density indicated on the mill certificate which results in zero percent free water and shall be presented to ENGINEER prior to the start of cementing operations. No cement slurry shall be pumped until the specified slurry density is obtained.

- G. Setting Time: No drilling operations shall be permitted until grout has cured. Setting time between stages shall be 12 hours or as approved by the ENGINEER. Longer time shall be necessary when high-yield cement is used. After cementing is completed on a casing, the well must remain undisturbed for at least 24 hours for setting of the cement prior to drilling out the cement plug in the well. Further setting requirements for the final casing strings on the well are contained in Section 02674, Casing.
- H. Tag Depth: CONTRACTOR shall demonstrate the tag depths to the satisfaction of ENGINEER and regulatory inspector prior to grouting. The depth to the top of the existing grout or borehole shall be determined by washing out the annular space, if necessary, as approved by ENGINEER and regulatory inspector.
- I. Temperature logging will be conducted after each grout stage in the 24-inch diameter final casing at RW-1 through RW-5 and MW-1 through MW-5 to confirm physical tag depths.
- J. CONTRACTOR shall be solely responsible for any defect in the cementing work due to improper, or a lack of, equipment, technology, personnel or experience, either by CONTRACTOR or by any of its Subcontractors. CONTRACTOR shall pay all costs necessary to correct such defects. Should CONTRACTOR fail to correct defects, ENGINEER may refuse to accept the well.
- K. Throughout all cementing operations, CONTRACTOR shall exercise extreme care to prevent the collapse of casing. As a minimum, during placement of cement by the tremie method, a pressure-tight bulkhead shall be maintained on the casing being cemented and during cementing, and for 8 hours

following placement of cement, pressure shall be maintained in the casing. The heating and cooling of the cement may require that water be added or released from the casing to maintain the required pressure.

- L. Drillable Bridge Plug: CONTRACTOR shall furnish equipment and personnel to install a commercial drillable bridge plug as approved by ENGINEER, or may construct a bridge plug in place using cuttings and a lift of at least 10 feet of Portland ASTM 150 Type II or Type 1L neat cement. Amount of cement and placement method shall be reviewed and approved by ENGINEER.
- M. Pilot Hole Plugback: CONTRACTOR shall plugback open pilot holes with grout prior to reaming and prior to the installation of casing as directed by ENGINEER. Gravel shall be emplaced by the tremie method through highly permeable zones as approved by ENGINEER.

END OF SECTION

SECTION 02678
WELL DEVELOPMENT

PART 1 GENERAL

1.01 WORK INCLUDED

- A. This section covers the work, materials, and equipment necessary for the development of RW-1 through RW-5 and MW-1 through MW-5, complete.
- B. Wells shall be developed until all visible particulate matter has been removed from the well to the satisfaction of ENGINEER.
- C. Development of the wells shall be by closed circulation. If approved by the City, The CONTRACTOR may discharge to nearby surface waters if the appropriate state and local permits are secured by the CONTRACTOR. It will be the CONTRACTOR's sole responsibility to comply with all permit conditions and applicable regulations for discharge.
- D. The total development time is estimated to be 16 to 24 hours per well. However, ENGINEER shall be the sole judge as to when development is complete and shall, therefore, increase or decrease the total development time.

1.02 SUBMITTALS

- A. CONTRACTOR shall submit certification that the flow meter has been calibrated within 90 days prior to development. Calibration data shall accompany the certification and shall be provided to ENGINEER 10 days prior to well development.

PART 2 PRODUCTS

2.01 AIR-LIFT EQUIPMENT

- A. CONTRACTOR shall:
 - 1. Provide an airline and compressor of adequate size and length to be able to surge the well with air. The airlift equipment shall be capable of pumping 2,000 gal/min for the recharge wells, 200 gal/min for the

monitoring wells, and a rate as limited by well yield for the pad monitor wells.

2. Furnish and install all necessary compressors, piping, tools, pumps, and any other equipment to develop the wells by airlifting to obtain a flow of 2,000 gal/min as stated above and as approved by ENGINEER.
- B. Provide a tee with lateral outlet horizontal and all necessary piping to properly contain and measure the flow of water and dispose of it in accordance with these Specifications. Provide a seal on top outlet to prevent overflowing and a tee and pipe of the same diameter as the corresponding casing.
- C. Be prepared for straight air development and or reverse air. Straight air development may require eductor piping lowered to the development zones to increase development action.

2.02 HIGH CAPACITY PUMPING EQUIPMENT

- A. CONTRACTOR shall furnish a turbine pump and discharge equipment and piping for development of the well by pumping. Pump and appurtenances are specified in Section 02681, Pumping Tests.

2.03 STORAGE CONTAINMENT RECIRCULATION AND SETTLING EQUIPMENT

- A. CONTRACTOR shall furnish a minimum of 100,000 gallons of onsite storage for development. The containment vessel will be cleaned of all sediment prior to initiating development activities. Multiple tanks, baffle systems, and filtering shall be required to remove suspended solids prior to re-circulation into the well.
- B. CONTRACTOR will provide all equipment and materials necessary to convey water from the well, through the settling containment system, and back into the well.
- C. Discharge of water onsite will only be allowed if approved by the City and upon issuance of all required permits authorizing surface discharge.
- D. If solids cannot be removed to the satisfaction of the ENGINEER water may be hauled off site to an FDEP approved location.

PART 3 EXECUTION

3.01 INITIAL DEVELOPMENT BY AIRLIFTING

- A. The purpose of the development work is to remove effectively from the well, well walls, and the formation immediately adjacent to the well, material like mud, clay, cuttings, rock fragments, and any other type of loose or potentially loose materials. The injection well and monitoring wells shall be developed by the air development method as follows:
1. Airlift development methods shall be done by utilization of a single pipe air pumping system using the casing or the borehole itself as the educator line. The compressors, air lines, hoses, fittings, etc., shall be of adequate size to pump the well by the airlift principle up to a maximum flow of 500 to 1,000 gal/min with air. CONTRACTOR shall initially pump the well with air until the well is developed to the point that it yields clear, sand-free water. He shall then shut off the air and allow water in the well to return to a static condition. He shall then reopen the valve and reintroduce air into the well until water is again brought to the surface by the airlift, at which time he shall close the air valve and allow the water to drop back down the well and return to a static condition. He shall repeat this lifting and dropping of the column of water until the water in the well becomes turbid at which time he shall continuously pump the well with air until it again yields clear sand-free water. CONTRACTOR shall repeat the above operations until the well no longer produces fine material when it is surged and backwashed as described above, or until ENGINEER is satisfied that development is complete.
 2. The bottom of the airline shall be placed at different levels in order to facilitate development of all intake areas and multiple water producing zones, and the process repeated until all zones yield water free of turbidity when surged and backwashed, as directed by ENGINEER.
- B. The pad monitoring wells shall be developed as described above except the quantity of water produced shall be as limited by well yield.

3.02 INSTALLATION OF PUMPING EQUIPMENT

- A. A high-capacity pump, flow measuring device(s), discharge piping, access pipe/air-line, and other necessary appurtenances shall be installed for development and testing as specified in Section 02681, Pumping Tests.

3.03 PUMPING DEVELOPMENT

- A. CONTRACTOR shall operate the pumping development equipment continuously at such rates of discharge (between approximately 500 and 1,000 gal/min) and such periods of time as determined by ENGINEER. The well shall be pumped until the water is free from sand, silt, and turbidity and/or until no further improvement in turbidity and specific capacity can be observed, and in a manner that will contain all water produced. ENGINEER shall determine when development by high-capacity pumping is complete.
- B. The static water level in the well shall be allowed to recover for a time equal to the pumping development time, as a minimum, before start of the variable-rate specific capacity test.

3.04 RECIRCULATION OF DEVELOPMENT WATER

- A. CONTRACTOR will be responsible for settling suspended solids from the development water prior to re-circulating back into the well. Water must have a turbidity measurement of 50 NTUs or less prior to re-circulating back into the well. This is anticipated to require multiple settling tanks, baffle systems, filtering, increased settling times, and periodic cleaning of sediment from tanks.

3.05 PUMP REMOVAL

- A. Do not remove the pump and appurtenant equipment until the work is complete as specified in Section 02681, Pumping Tests and as approved by ENGINEER.

3.06 WATER SAMPLING

- A. After the wells have been fully developed, as determined by ENGINEER, each well shall be sampled to determine background water quality. The sampling shall be conducted as specified in Section 02311, Water Quality Sampling and Testing.

END OF SECTION

SECTION 02679
GEOPHYSICAL LOGGING

PART 1 GENERAL

1.01 WORK INCLUDED

- A. This section covers the work, materials, and equipment necessary for geophysical logging of the borehole and wells.
- B. CONTRACTOR is advised that the well may be under artesian conditions and static logging may have to be accomplished through use of a standpipe or pack-off collar.

1.02 SUBMITTALS

- A. Three field copies of each requested geophysical log shall be provided to ENGINEER by CONTRACTOR immediately upon the completion of each logging event.
- B. One electronic copy in Adobe Acrobat format and LAS (Log ASCII Standard) format shall be provided to ENGINEER by CONTRACTOR upon ENGINEER's review of field copy for such items as accuracy, scale, reproducibility, etc. Up to five additional hard copies of final logs will be provided upon request.
- C. Geophysical logging probe or sonde schematic for each downhole tool used.

PART 2 PRODUCTS

2.01 GENERAL

- A. CONTRACTOR shall provide a sheave or other means from which the logging Subcontractor may hang geophysical logging equipment during logging events.
- B. Logging Subcontractor shall be provided in CONTRACTOR's list of specialty Subcontractors as stated in the Bid Package.
- C. CONTRACTOR will provide continuous digital recording geophysical logging equipment capable of running the following:
 - 1. Spontaneous potential log
 - 2. Natural gamma ray log
 - 3. X-Y caliper log
 - 4. Temperature and delta temperature logs

5. Fluid resistivity log
 6. Flow meter (with flow interpretation analysis) log
 7. Dual induction log
 8. Borehole-compensated sonic log
 9. TDS Compilation Log
 10. Cement Bond Log
 11. Video survey with rotating head or borehole televiewer (on pilot hole only if poor visibility)
- D. Contract shall provide pumping equipment required for dynamic logging

PART 3 EXECUTION

3.01 GENERAL

- A. Geophysical logging shall be conducted in general accordance with the program outlined in Section 01010 Summary of Work and in accordance with the Geophysical Logging summary Table 02679-1 at the end of this section.
- B. A nominal 8 to 12-inch diameter pilot hole shall be drilled by CONTRACTOR to the depth determined by ENGINEER and prepared for geophysical logging. Borehole preparation shall include but not be limited to: 1) continuation of circulation until drill cuttings have been removed from the borehole and 2) circulation of the drilling mud in the borehole until it is uniform and the drill pipe has been removed from the borehole. CONTRACTOR must make all reasonable efforts to leave the borehole free from obstructions in preparation for geophysical logging.
- C. It is the CONTRACTOR's sole responsibility to reduce the turbidity of the water in the reverse-air drilled pilot hole so that a clear video survey can be obtained. No development time will be charged to clean the borehole in preparation of logging. No water will be permitted to be injected into the pilot hole to facilitate video clarity. A borehole televiewer log may be substituted for a video survey on the pilot hole intervals, however a video must be completed on the final well.
- D. Logging shall be performed by CONTRACTOR as soon as possible after drilling and preparation of each pilot hole. The logging interval shall be the total depth of the pilot hole or less as determined by ENGINEER.

- E. Temperature logging shall be conducted following each stage of cementing on the final casing for the injection well. CONTRACTOR shall tag the cement fill in the annular space prior to performing each log. The temperature log will be conducted from land surface to within 20 feet of the base of the casing, or as otherwise approved by ENGINEER. The log shall be presented at scales of 1-inch equals 2 degrees F and 1-inch equals 25 degrees F side-by-side on the same log. CONTRACTOR shall wait a minimum of 8 hours following cementing prior to logging, with a maximum of 16 hours prior to logging the well following each cement stage.
- F. If a cement bond log (CBL) is required by FDEP: The top 200 feet of annulus shall remain un-cemented until performance of the CBL to assist with tool calibration during logging. Cement the top 200 feet after performing the CBL.
- G. CONTRACTOR shall provide access to the well for the purpose of water level measurements or otherwise as requested by ENGINEER during geophysical logging events.
- H. Testing of the well may be conducted concurrent with geophysical logging events. It shall be CONTRACTOR's responsibility to assist ENGINEER as directed during logging events.
- I. CONTRACTOR will set up all pumping equipment required to perform dynamic logs at a flow rate of 700 gpm or as approved by ENGINEER.
- J. All logs shall be clearly labeled with all pertinent information regarding the well, location, depths, scales, etc. Repeat sections shall be run to verify logging tool performance on all logs. The repeat sections shall consist of 20 percent of the borehole length up to 200 feet in length. ENGINEER shall select the section of the borehole to perform the repeat section.
- K. Color Video surveys of the borehole shall be transferred to mp4 format and provided on a flash drive, or by other format approved by ENGINEER. CONTRACTOR shall furnish the City with all runs, 1 field copy, and 5 final copies of each survey.
- L. All logs run on the pilot holes of the injection well shall be run with scales of 1 inch equals 100 feet; 2 inches equals 100 feet; and 5 inches equals 100 feet.

3.02 NOTIFICATION REQUIREMENTS

- A. Regulatory agencies or other interested parties may require attendance at geophysical logging events. CONTRACTOR shall provide ENGINEER with a 24-hour notice prior to logging to facilitate coordination of the logging activities.

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TABLE 02679-1

Proposed Geophysical Logging Program for the Recharge Well System

Geophysical Logs													
Well Configuration	Interval										Temperature		SP
		Caliper	Natural Gamma	Dual Induction	Video Survey	BCS		TDS Completion	Fluid Resistivity	Flow-Meter ¹	Well	Cement Stage	
Injection Well (RW-1 through RW-5)													▲
Pilot Hole	0 to 200	▲	▲	▲									
Reamed Hole	0 to 200	▲	▲										
Pilot Hole	0 to 450	▲	▲	▲		▲		▲	▲ (S/D)	▲ (S/D)	▲ (S/D)		▲
Reamed Hole	0 to 450	▲	▲										
Pilot Hole	0 to 1,300	▲	▲	▲	▲	▲		▲	▲ (S/D)	▲ (S/D)	▲ (S/D)		▲
Reamed Hole	0 to 650	▲	▲										
Completed Well ²	0 to 1,200	▲	▲		▲							▲ (FCI)	
Monitor Well (MW-1 through MW-5)													
Pilot Hole	0 to 200	▲	▲	▲									▲
Reamed Hole	0 to 200	▲	▲										
Borehole Hole	0 to 400	▲	▲	▲	▲	▲		▲	▲ (S/D)	▲ (S/D)	▲ (S/D)		▲
Completed Well ³	0 to 400	▲	▲		▲							▲ (FCI)	

Static (S); Dynamic (D); Following Casing Installation (FCI); Borehole Compensated Sonic (BCS); Spontaneous Potential (SP)

1 – Flowmeter log with interpretation

TABLE 02679-1
 Proposed Geophysical Logging Program for the Recharge Well System

Geophysical Logs													
Well Configuration	Interval										Temperature		
		Caliper	Natural Gamma	Dual Induction	Video Survey	BCS		TDS Compi-lation	Fluid Resist-ivity	Flow-Meter ¹	Well	Cement Stage	SP

2 – Including Cement Bond Log and RTS.
 3 - Cement Bond Log if required by FDEP

END OF SECTION

SECTION 02681
PUMPING TEST

PART 1 GENERAL

1.01 WORK INCLUDED

- A. This section covers the work, materials, and equipment necessary for the well pumping test complete.
- B. The estimated length of the pumping test at each recharge well is approximately one hour. Two different pumping rates may be utilized during this test. The rates shall be determined by ENGINEER in the field. The estimated pumping rates are 700 gpm and 1,400 gpm. The pump shall be left undisturbed and in place during the recovery period, approximately equal to 50 percent of each pump test duration. However, ENGINEER shall be the sole judge as to length of the test and may increase or decrease the total pumping time of the test.
- C. Water generated during pumping test will be stored on site. Containment of water and a system to remove suspended solids will be provided by CONTRACTOR. Suspended solids will be removed from water before discharging into well for injection test. Water must have a turbidity of 50 NTU or less prior to injection into the well.
- D. If approved by the City, The CONTRACTOR may discharge to nearby surface waters if the appropriate state and local permits are secured by the CONTRACTOR. It will be the CONTRACTOR's sole responsibility to comply with all permit conditions and applicable regulations for discharge.

1.02 SUBMITTALS

- A. The CONTRACTOR shall submit certification that the flowmeter has been calibrated within 90 days prior to testing. Calibration data shall accompany the certification and shall be provided to the ENGINEER 10 days prior to injection test.
- B. The CONTRACTOR shall submit information on the pumping equipment, settling tanks, containment system and system layout for the pumping test.

PART 2 PRODUCTS

2.01 TEST PUMP

- A. CONTRACTOR shall:
- B. Furnish and install a test pump and driver capable of pumping from 700 to 1,400 gpm for the pumping out test. The pump shall not be fitted with a foot valve.
- C. Provide a gate valve, or equal, on the discharge side of the pump for adjustment of flow rate down to 700 gpm. if the test pump engine cannot be sufficiently throttled.
- D. Provide a pumping unit prime mover, controls, and appurtenances capable of being operated without interruption for a 1-hour period.
- E. Furnish engine-driven equipment or make arrangements for power for well pumping tests.
- F. Provide access for water level measurements by ENGINEER.

2.02 FLOW MEASURING DEVICE

- A. CONTRACTOR shall provide machined orifice plate(s) and flowmeter(s) capable of measuring the pump discharge within plus or minus 5 percent of true flow for flow rates from 700 to 1,400 gal/min.

2.03 DISCHARGE PIPING

- A. CONTRACTOR shall furnish, install, maintain, and operate discharge piping for the pump unit of sufficient size to convey pumped water to the settling tanks.

2.04 WATER SAMPLING PORT

- A. CONTRACTOR shall provide a spigot or other valved port on the discharge line to allow water quality sampling during the pumping test.

2.05 STORAGE CONTAINMENT RECIRCULATION AND SETTLING EQUIPMENT

- A. CONTRACTOR shall furnish a minimum of 100,000 gallons of onsite storage for development. The containment vessel will be cleaned of all sediment prior to initiating development activities. Multiple tanks, baffle systems, and filtering will be required to remove suspended solids prior to re-circulation into the well.

- B. CONTRACTOR will provide all equipment and materials necessary to convey water from the well, through the settling containment system, filters, and back into the well.

PART 3 EXECUTION

3.01 INSTALLATION OF PUMPING EQUIPMENT

- A. The pump, flow measuring device(s), discharge piping, access port, water sampling port, and other necessary appurtenances shall be installed for the well pumping tests.

3.02 PRELIMINARY CAPACITY PUMPING TEST

- A. If requested, the CONTRACTOR shall run a preliminary pumping test prior to each pumping test. The preliminary pumping test shall be conducted to establish rates and evaluate equipment performance, including discharge capacity, and to estimate the production capacity of the well prior to implementation of the step drawdown test. Operate the pumping test equipment continuously at rates of discharge and for periods of time as determined by ENGINEER. Duration of such preliminary test shall be approximately 1 hour.
- B. Unless otherwise approved by ENGINEER, the preliminary capacity pumping test shall be run on the day preceding the pumping test.
- C. The static water level in the well shall be allowed to recover for a time equal to the duration of the preliminary test before start of well pumping test or longer as determined by ENGINEER.

3.03 PUMPING TEST

- A. CONTRACTOR shall operate the pumping test equipment continuously at rates of discharge and for periods of time prescribed by ENGINEER. CONTRACTOR shall provide an operator during the entire time the pump is in operation, as required by ENGINEER, to operate the prime mover and to regulate discharge by the throttling device during the test pumping period.
- B. At the completion of the pumping test, the pump bowls and column shall not be removed from the well for a time equal to 50 percent of the total pumping time to allow accurate water level recovery measurements to be taken, or less as

determined by ENGINEER. No additional standby time or pumping time payment shall be awarded during this period.

3.04 FURTHER DEVELOPMENT

- A. If considerable quantities of fines are pumped out of the well during the test, CONTRACTOR shall discontinue the test and resume well development. ENGINEER shall be the sole judge as to whether such additional development is necessary.
- B. After completion of the test, CONTRACTOR shall sound the well and remove any sand or silt accumulated in the well as a result of the test.

3.05 DISPOSAL OF WATER

- A. Disposal of water shall be the responsibility of CONTRACTOR. Water generated from pumping tests will be contained on site and re-circulated into the well or at the CONTRACTORs discretion and expense, disposed of offsite.
- B. Water will require settling and filtration to reduce turbidity prior to disposal or recirculation into the well following the test. ENGINEER must approve methods of solids removal prior to commencing each pumping test. Water re-circulated into the well shall have a turbidity of 50 NTU or less at all times. Up to 100,000 gallons of storage shall be required.

3.06 WATER LEVEL ACCESS

- A. CONTRACTOR shall provide access at the wellhead for water level measurements in the well prior to and during the pumping test.

END OF SECTION

SECTION 02684
WELL ACIDIZATION

PART 1 GENERAL

1.01 WORK INCLUDED

- A. This section covers the work necessary to acidize recharge wells, complete, if directed by ENGINEER.

PART 2 PRODUCTS

2.01 GENERAL

- A. Provide all the materials and equipment required to accomplish the work as specified.

2.02 ACID STORAGE

- A. All acid storage tanks will be of appropriate material and construction for storage of hydrochloric acid (HCl) at the specified concentrations. One tank will be required for the termination of the blow-off pipe from the wellhead to capture acid off-gassing in the event of a pressure release from the well. The CONTRACTOR will also provide container(s) for acid storage. The total volume for the storage container(s) is not specified so that the CONTRACTOR can propose options that are most suitable for the site. A combined use of onsite staging and acid delivery tankers is acceptable provided it does not delay the injection of the acid and batches of approximately 5,000 gallons can be pumped continuously.

2.03 SECONDARY CONTAINMENT

- A. The secondary containment will be of appropriate material and construction for storage of HCl. The secondary containment will encompass all areas containing chemicals including storage areas, pipeline to and from the well, pumps, and any other components that may be in contact with acid or soda ash or any other chemicals used in the well rehabilitation process. Secondary containment will be required regardless of whether the acid storage task(s) are placed on the cement well pad or not.

- B. The CONTRACTOR will be responsible for controlling the flow from the well while removing the wellhead and setting up for acidization in accordance with the appropriate sections of these documents.
- C. Acid will be 32 percent inhibited hydrochloric acid (HCl) from a source and carrier approved by the ENGINEER. The HCl provided shall be approved for use in potable water wells, unless otherwise approved by the ENGINEER.

2.04 ACIDIZATION HEADER

- A. Type of temporary acidization wellhead will be at the discretion of the CONTRACTOR but must be rated for a minimum working pressure of 250 psi or higher. The acidization wellhead must include, at a minimum, the following components: acid line capable of injection at the required rates, one 4-inch diameter blow-off (or equivalent), flanged tee for injection of water at high rates, and pressure gauge for the acid blow-off valve. The wellhead shall also be equipped with valves on each pipeline to control flows. Gauges shall be suitable for intended use and shall be calibrated from 0 to 250 psi. The temporary acidization wellhead schematic is provided in the Drawings.
- B. Approximately 10,000 gallons of 32 percent HCl (per recharge well) will be targeted to complete the acidization. Actual quantities used in the field shall be pre-approved by the ENGINEER. Certification from acid supplier will be required to verify materials and acid quantities at least 3 working days prior to acid delivery to site.
- C. All piping from the wellhead to the blow-off containment tank will be of steel suitable for contact with 32 percent HCl. Flexible hoses may be used for the acid delivery lines to the wellhead as long as the hoses and hose connections are of appropriate material for handling 32 percent HCl and capable of withstanding operating pressures of at least 200 psi.
- D. An approved inhibitor shall be added to the acid prior to emplacement of the acid in order to protect the wellhead and casing from the acid.
- E. The inhibitor must be approved by the ENGINEER prior to their use.
- F. CONTRACTOR will provide and install a calibrated pressure gauge for readings during acid injection and during flushing between acid batches. The gauge will be installed away from wellhead with a ball valve to allow changing of the pressure

gauge if required. A redundant backup calibrated pressure gauge will be provided by the CONTRACTOR.

PART 3 EXECUTION

3.01 WORKMANSHIP

- A. The CONTRACTOR shall be responsible for maintaining water levels below land surface when the wellhead is open to atmosphere and be capable of closing in the well and controlling flow at all times during all activities conducted under this contract. No unauthorized flow will be allowed from the well at any time.
 - 1. Food grade salt is acceptable for lowering and maintaining the water level in the well. Other methods will require the approval of the ENGINEER.
 - 2. The CONTRACTOR's fluid control device shall be approved by the ENGINEER prior to mobilization.
- B. Install 2-inch diameter acid injection pipe to the depth selected by the ENGINEER (the anticipated depth is 250 feet).
- C. Set up wellhead in accordance with the drawings and the specifications. All lines shall be installed such that no leaks occur.
- D. It is the intent that the emplacement of the acid will be done in one day in multiple batches. The general sequence for the acid injection is to pump the acid in two (2) 5,000-gallon batches, or as determined by ENGINEER. The well will be flushed with approximately 25,000 gallons of water in between each batch at a rate of approximately 1,400 gpm. Following the final batch of acid at each well, approximately 50,000 gallons of water will be injected into the well at flow rates between 500 gpm and 1,400 gpm.
- E. Flush water will be potable water or groundwater generated from the well and stored on site. Inject into the well at a rate of approximately 1,400 gpm at head pressures of up to 100 psi. The flow rate will be measured with flow meter provided by the CONTRACTOR. An additional back-up water pump will be provided by the CONTRACTOR. The purpose of the pump is to serve as a backup in the event the primary pump fails so that acid can be cleared from the well. The backup pump shall be capable of maintaining a flow rate of 500 gal/min at head pressures of 100 psi at a minimum. The CONTRACTOR shall provide equipment, and up to 100,000 gallons of water storage containment to perform acidization.

- F. Inject the acid through the acid line at a rate of approximately 100 gal/min. The HCl will be stored in a holding tank or containment system prior to injection. The tank shall be constructed of suitable material to retain the acid without leaks. The tank will be of sound construction and must not leak. The pump used to emplace the acid must be capable of pumping at a rate of approximately 100 gal/min. at head pressures of up to 100 psi. All pipe and pipe fittings for conveying acid shall be of rigid construction and constructed of suitable material approved by the ENGINEER.
- G. After pumping of all acid is complete, continue water injection as described above. After water injection is complete, close all valves and allow well to remain undisturbed for a minimum 24-hour duration or as otherwise approved by ENGINEER.

END OF SECTION

SECTION 02686
STANDBY TIME AND DOWN TIME

PART 1 GENERAL

1.01 DEFINITIONS

- A. Standby time shall be paid for shutdown time of the equipment and crew for any portion of the authorized working day when ENGINEER's representative orders Work to cease or when other activities at the site preclude work by CONTRACTOR, as approved by ENGINEER's representative. Standby time does not include time when ENGINEER's representative or a regulatory agency or other authority order Work to cease because of safety, lack of proper equipment or supplies, or violation of federal, state, or local rules, regulations, or statute.
- B. Downtime shall mean that time, other than standby time, during which drilling could occur but does not or when machinery is broken down, proper materials or equipment as specified in this document are not available, or CONTRACTOR elects not to drill. Downtime includes:
 - 1. Adverse weather conditions and delayed arrival of regulatory inspectors.
 - 2. Time waiting on ENGINEER's representative to begin testing or other operations requiring their presence. ENGINEER's representative must be given 48 hours' notice exclusive of weekends and holidays, prior to any testing or grouting activities.
 - 3. Time required for the ENGINEER to review data required to provide direction related to construction and testing.
 - 4. Time required for the ENGINEER to generate and submit FDEP required approvals.
 - 5. FDEP's time to review and approve submittals.
- C. Extra work shall mean that time, other than standby time, during which CONTRACTOR is directed to provide equipment and a crew to perform extra work not specifically addressed in Specifications, or elsewhere in these Contract Documents.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 02689
TEMPORARY WELLHEAD CAPPING AND VALVES

PART 1 GENERAL

1.01 GENERAL

- A. Provide all materials and equipment necessary for closing in recharge wells and monitoring wells as specified and shown in the drawings and in accordance with these Specifications.
- B. All valves shall be complete with all necessary operating handwheels, extension stems, worm and gear operators, operating nuts, chains, and wrenches which are required for the proper completion of the work.
- C. Renewable parts including discs, packing, and seats shall be of types recommended by valve manufacturer for intended service.
- D. All units shall have the name of the manufacturer and the size of the valve cast on the body or bonnet or shown on a permanently attached plate in raised letters.
- E. Brass and Bronze Components:
 - 1. Brass and bronze components of valves and appurtenances which have surfaces in contact with the water shall be alloys containing less than 16 percent zinc and 2 percent aluminum.
 - 2. Approved alloys are of the following ASTM Designations: B61, B62, B98, (Alloy A, B, or D) B139 (Alloy A), B143 Alloy 1-B), B164, B194, B292 (Alloy A), and B127. Type 304 or Type 316 stainless steel with Inconel cladding on flow wetting parts may be substituted for bronze at the option of the manufacturer with the approval of the ENGINEER.

PART 2 EXECUTION

2.01 GENERAL

- A. Bolt holes of flanged valves shall straddle the vertical centerline of the pipe run. Prior to installing flanged valves, the flanged faces shall be thoroughly cleaned. After cleaning, insert gasket and bolts, and tighten the nuts progressively and uniformly. If flanges leak under pressure, loosen or remove

the nuts and bolts, and retest the joints. Joints shall be watertight at test pressures before acceptance.

- B. Thoroughly clean threads of screwed joints by wire brushing, swabbing, or other approved methods. Apply approved joint compound to threads prior to making joints. Joints shall be watertight at test pressures before acceptance.

END OF SECTION

SECTION 02985
INJECTION TEST

PART 1 GENERAL

1.01 WORK INCLUDED

- A. This Section covers the work, materials and equipment necessary for the injection test at RW-1, complete. Injection tests will not be conducted at the remaining recharge wells under this contract.
- B. The injection test will be conducted at the discretion of the Engineer and the City. No payment will be made if the injection test is not conducted.
- C. The estimated length of the injection test is approximately twelve (12) hours. Up to three different rates will be utilized during this test. The rates and time steps will be determined by the Engineer in the field. However, the Engineer shall be the sole judge as to length of the tests and therefore may increase or decrease the total injection time of the tests. The anticipated pumping rates and times are 2 hours at 3,500 gpm (5 mgd), 2 hours at 7,000 gpm (10 mgd), and 8 hours at 10,500 gpm (15 mgd).
- D. Contractor shall include all equipment needed to conduct injection test using reclaimed water from the chlorine contact chamber including but not limited to pumps (power supply if electric pumps are used), piping, valves, flow meters, pressure gauges, fittings, and water level recording devices.

1.02 SUBMITTALS

- A. The Contractor shall submit certification that the flowmeter has been calibrated within 90 days prior to testing. Calibration data shall accompany the certification and shall be provided to the Engineer 10 days prior to the injection test.
- B. The Contractor shall submit information on the materials, equipment, and system layout for the injection test.

PART 2 PRODUCTS

2.01 TEMPORARY PIPING AND WELLHEAD

- A. The Contractor shall supply and install temporary piping, injection wellhead, including the necessary valves and fittings to be used during the injection test. The piping must be capable of allowing a flow rate of no less than 10,500 gpm with a velocity of no more than 7 feet per second.

2.02 PUMPING EQUIPMENT

- A. The Contractor shall furnish and install temporary pumping equipment as needed and requested by Engineer, to provide not less than 10,500 gpm flow rate down the well continuously for the duration of the Injection Test.

2.03 MONITORING EQUIPMENT

- A. The Contractor shall furnish and install pressure transducer data logger to monitor pressure levels in the injection well and associated monitoring well. Data loggers will be capable of reporting in real time during the pumping test. Contractor shall also install a pressure gauge on the injection header.
- B. The Contractor shall furnish and install a flowmeter to indicate and totalize the injected water into the injection well during the injection test. The indicator shall be capable of showing the flow being injected with divisions not greater than 50 gallons. The totalizer shall be capable of showing the total amount of water injected at any time.
- C. The Contractor shall remove all of the above equipment at the completion of the injection test to the satisfaction of the Engineer.

PART 3 EXECUTION

3.01 INJECTION TEST

- A. Water for the injection test will be reclaimed water from the chlorine contact chamber (see contract drawings for chamber location and potential system layout).
- B. The Contractor shall be solely responsible for the data logging.
- C. The Contractor shall provide pump(s) and install wellhead and all necessary piping and valving to perform the injection test. The pumps and associated piping etc. shall be of sufficient size as to allow at a constant rate of 10,500 gpm to the injection well. Estimated piping distance from the chlorine contact chamber to RW-1 is approximately 1,500 feet.

- D. The Contractor shall supply all monitoring equipment for the injection test.
- E. The data shall be delivered to the Engineer as a Microsoft Excel® file.
- F. It is imperative that the monitoring equipment be in proper working order, and recording data throughout the entire period of time of the injection test and recovery test. Should monitoring equipment fail during the injection or recovery test period, the Contractor, at his own cost, shall restart the test, as directed by the Engineer. If the test must be restarted, the Contractor must wait for well recovery prior to reinitializing the test.
- G. The Contractor shall provide an operator during the entire time the pump is in operation, as required by the Engineer, to operate the prime mover and to regulate the discharge by the throttling device during the test injection period.
- H. At the completion of the injection test, the monitoring devices shall not be removed or disturbed during the recovery period which is anticipated to be approximately the amount of time injection occurred or as determined by the Engineer. No additional standby time or injection time payment shall be awarded during this period.

END OF SECTION

SECTION 02987
PACKER TESTING

PART 1 GENERAL

1.01 WORK INCLUDED

- A. This section covers the work, materials, and equipment necessary for performing the packer tests as specified in these documents.

1.02 SUBMITTALS

- A. CONTRACTOR shall furnish ENGINEER with packer schematic and manufacturers' recommended installation and operating information. This shall include at a minimum the recommended borehole size range of packer, the inflation pressures required to inflate the packer to its minimum and maximum diameter, recommended sealing pressure, inflation instructions detailing method of inflation, and methods for determining proper packer seating. Packer submittals shall be submitted to ENGINEER at least 5 working days prior to packer testing activities.
- B. CONTRACTOR shall furnish ENGINEER with flow meter calibration certificate for flow meters used in the packer testing activities. All meters used shall have been calibrated within the previous 6 months prior to packer testing activities. Meters shall be capable of accurately showing flow rates from 5 to 200-gal/min within plus or minus 5 percent.

PART 2 PRODUCTS

2.01 PACKER

- A. Straddle Packer: The packer shall be Baker, TAM J, Baski, or equal, straddle packer, of a diameter appropriate for the size of the hole as calipered by the geophysical logging. The packer shall seal tightly against the borehole walls to effectively isolate the interval between the packers. ENGINEER shall be the sole judge as to the effectiveness of the packer element's isolation of other sections of the borehole. Furnish drill pipe and all required fittings for running and setting the packer to the appropriate setting depth and as specified by the manufacturer. Packer element separations shall be between 10 and 100 feet in 2-foot increments as directed by ENGINEER.

- B. Off-Bottom Packer: The packer shall be Baker, TAM J, Baski, or equal, open-hole single packer, or equal, of a diameter appropriate for the size of the hole as calipered by the geophysical logging. The packer shall seal tightly against the borehole walls to effectively isolate the interval below the packers. ENGINEER shall be the sole judge as to the effectiveness of the packer element's isolation of other section of the borehole. Furnish drill pipe and all required fittings for running and setting the packer to the appropriate setting depth and as specified by the manufacturer.
- C. Off-bottom packer tests on the monitoring wells are intended to confirm specific capacity of the proposed monitoring zone prior to final casing installation. An annular pressure test will also be performed following the off-bottom test prior to releasing the packer to evaluate confinement above the proposed monitoring interval.
- D. Packer shall be run on drill pipe or tubing having a minimum inside diameter of 6 inches from the surface to the appropriate testing depths.
- E. CONTRACTOR shall furnish all storage containment and related equipment necessary to store, manage, and dispose of water generated from packer testing.
- F. Packer inflation pressure shall be measured by a pressure gauge capable of measuring pressures from 0 to 150 percent of required inflation pressure. The gauge shall have divisions of 10 psi or less.

2.02 SUBMERSIBLE PUMP AND FITTINGS

- A. CONTRACTOR shall:
- B. Provide a 4-inch submersible pump and piping capable of being set a minimum of 200 feet below the static water level inside the drill pipe. For the annular test, the submersible pump must be set in the annulus.
- C. Provide pump or pumps which have capacities which range from 100 gal/min at a total head of 200 feet, to not less than 5 gal/min at a total head of at least 200 feet. CONTRACTOR is advised that pump selection will be dependent upon formation being tested and may result in changing to a larger or smaller capacity pump once testing has begun.

- D. Provide pump discharge with throttling valve to regulate flow from 5 to 200 gal/min or supply multiple pumps to meet this requirement.
- E. Provide a flow meter to measure pump discharge to within 5 percent of true flow. A certificate of meter calibration within past 6 months is required.
- F. Discharge lines shall be of appropriate size for the flow rates specified and fitted with valves to allow reduction of flow to create full pipe prior to flow meter to allow for accurate flow measurement. Flow rates under 5 gpm can be measured volumetrically. Discharge line shall remain in a fixed position and shall not be moved to fill vessels for volumetric measurements.

2.03 WATER LEVEL DATA LOGGER

- A. CONTRACTOR shall provide a data logger with two submersible transducers to be used during the packer testing. The data logger shall be approved by the ENGINEER.
- B. Data from the logger will be given to ENGINEER in Microsoft Excel® format. CONTRACTOR shall retain a copy for their records.
- C. CONTRACTOR is solely responsible for proper operation of the data logger. Should the data logger fail during the test, CONTRACTOR shall re-run the tests as needed, without additional charge, until such time that accurate data are collected. ENGINEER shall be the sole judge as to data integrity.

PART 3 EXECUTION

3.01 GENERAL

- A. CONTRACTOR shall run packer pump-out tests in the intervals selected by ENGINEER as follows: Set packer assembly to the deepest interval selected for testing and open ports between packer (or below packer in the case of the off-bottom packer test) at the test interval determined by ENGINEER. Install submersible pump to a depth of 150 feet below the water level inside the tubing or drill pipe. For each off-bottom packer test, CONTRACTOR shall also install a submersible pump in the annulus and run a separate annulus test (testing the zone above the single off-bottom packer) as part of each off-bottom packer test setting.

- B. The packer shall be inflated at a pressure recommended by the packer manufacturer or packer service company representative such that an effective hydraulic seal is maintained throughout the testing activities.
- C. Datalogger transducers will be installed prior to inflating the packer and data will be recorded prior to inflation, and during inflation and deflation of the packer.
- D. CONTRACTOR shall provide and install one water level measuring transducer to a depth of up to 150 feet below the water level inside the tubing or drill pipe. Provide and install one water level measuring transducer outside the drill pipe, within the well bore 20 feet below static water level. The two transducers will be switched, including the corresponding depths, to run the annulus packer test. The data loggers shall have pressure ratings appropriate for the depth of submersion.
- E. The wellhead will be perfectly sealed so that above ground static water levels can be accurately measured.
- F. Water level data per time for both transducers shall be recorded in log-cycle intervals or at an interval approved by ENGINEER during the packer pumping tests.
- G. CONTRACTOR will provide a manometer for above ground water level readings and access for manual electronic tape water level readings throughout the test so that data logger readings can be verified.
- H. Data from transducers must be recorded continuously, without interruption, and given to ENGINEER in Microsoft Excel® format.
- I. ENGINEER may order a change in pumps if the first pump selected does not match the producing capability of the formation being tested. Changing pumps shall be included in the cost of each packer test.
- J. Prior to commencing each packer test, CONTRACTOR shall, in the presence of ENGINEER, run a preliminary test to confirm that the packer has seated and that all equipment is functioning properly. Preliminary testing shall be run for up to one hour or until ENGINEER is satisfied that equipment is functioning properly.

- K. If, in the opinion of ENGINEER, there is evidence of a leak in or around a packer element, or a malfunction in any way, CONTRACTOR shall release and reset the packers at a depth selected by ENGINEER. Up to four resets shall be included in the cost of each packer test. The ENGINEER may, at its discretion, require a Memory Gauge attached below the lowermost packer to document an adequate seal on the lower packer for straddle packer tests. The type of Memory Gauge and method of transferring data following the test shall be approved by ENGINEER.
- L. CONTRACTOR shall assist ENGINEER in collecting water quality samples during the packer testing as described in Section 02673, Drilling, or as directed by ENGINEER.
- M. Upon completion of the packer pump test, recovery data shall be collected for a time equal to the pumping time or for a minimum of one hour, whichever is greater, or as directed by ENGINEER.
- N. CONTRACTOR shall remove water level measuring devices, submersible pump and associated equipment, deflate packers, and remove packers from well.
- O. Water generated during the packer test will be stored onsite and returned to the packer test interval that it was pumped from.

END OF SECTION

DRAWINGS

Tampa Construction Specifications
Contract 26-C-00029; Howard F. Curren AWTP Aquifer Recharge Wells Construction

CITY OF TAMPA, FLORIDA

DRAWINGS FOR

Contract 26-C-00029 Howard F. Curren AWTP Aquifer Recharge Wells Construction

The following sheets for the referenced projects come from uncontrolled sources and do not conform to WCAG 2.1 at level AA. Individuals with disabilities seeking assistance with the individual project plans or specifications should e-mail Contractadministration@tampagov.net.

City of Tampa

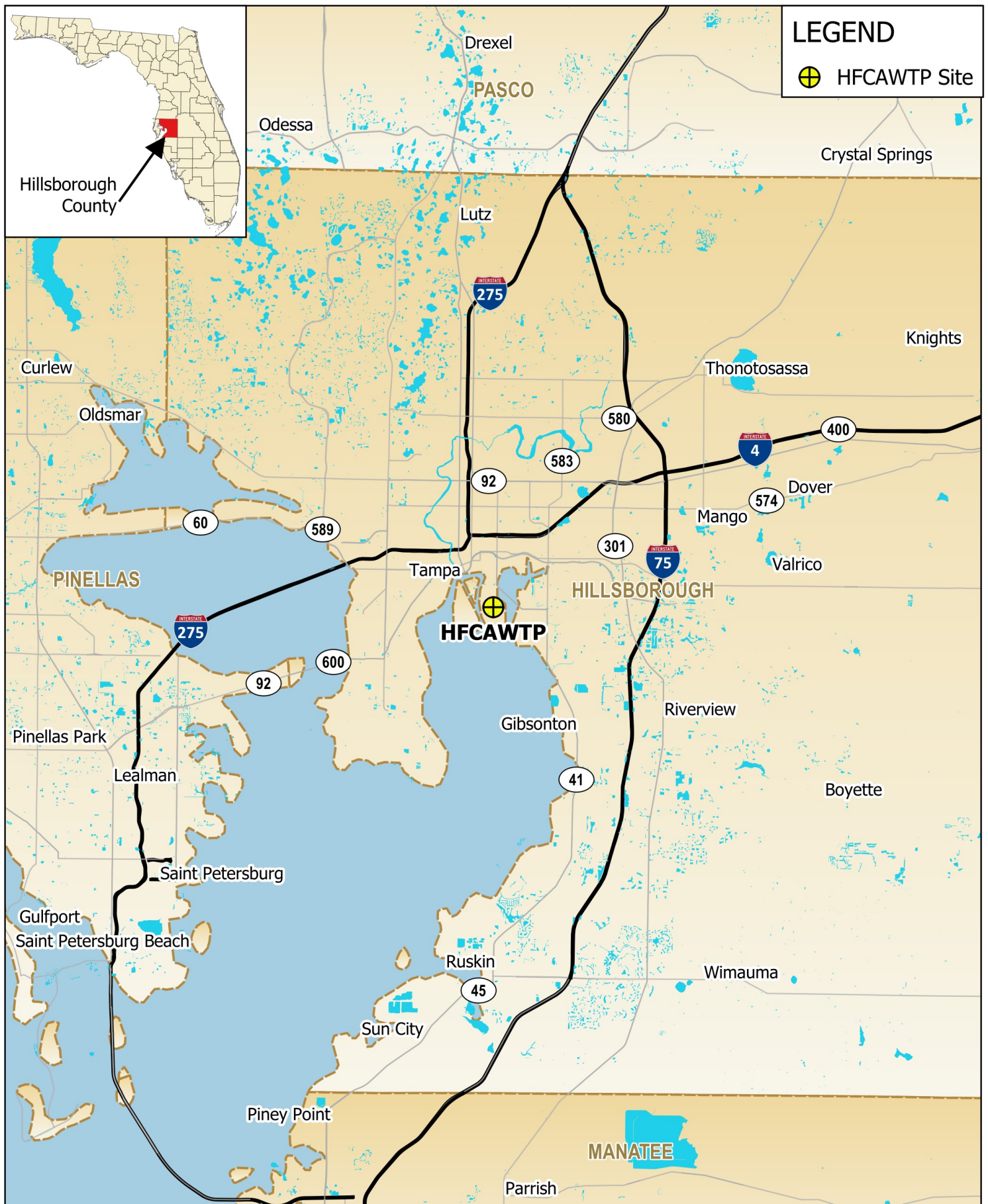
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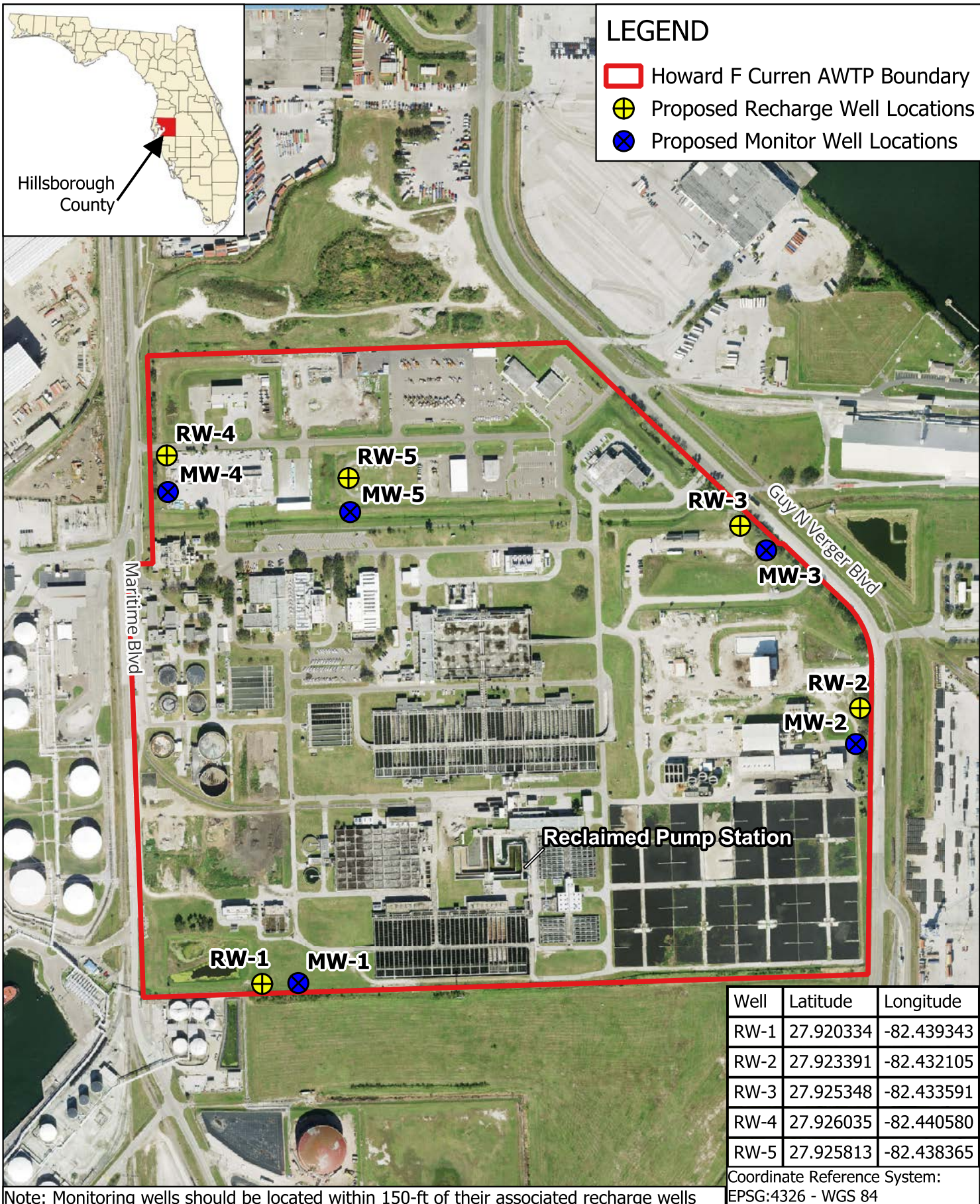
Tampa Municipal Office Building

306 E Jackson Street #280A4N Fourth Floor

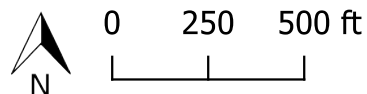
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AUGUST 2026





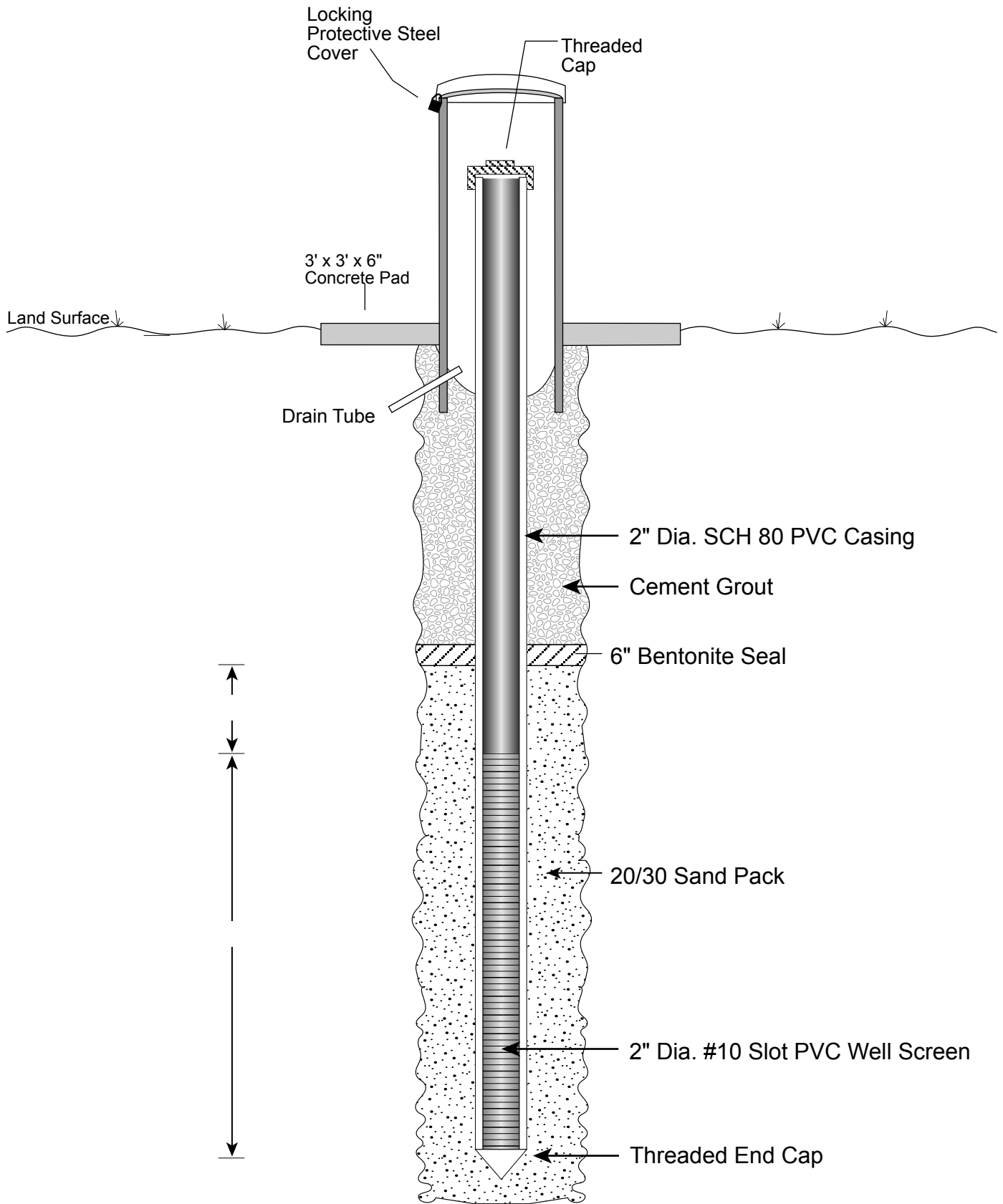
Revised 6/1/2026



Drawing No. 2
City of Tampa HFCWTP
Site Map



WallerConsultingEngineeringLLC

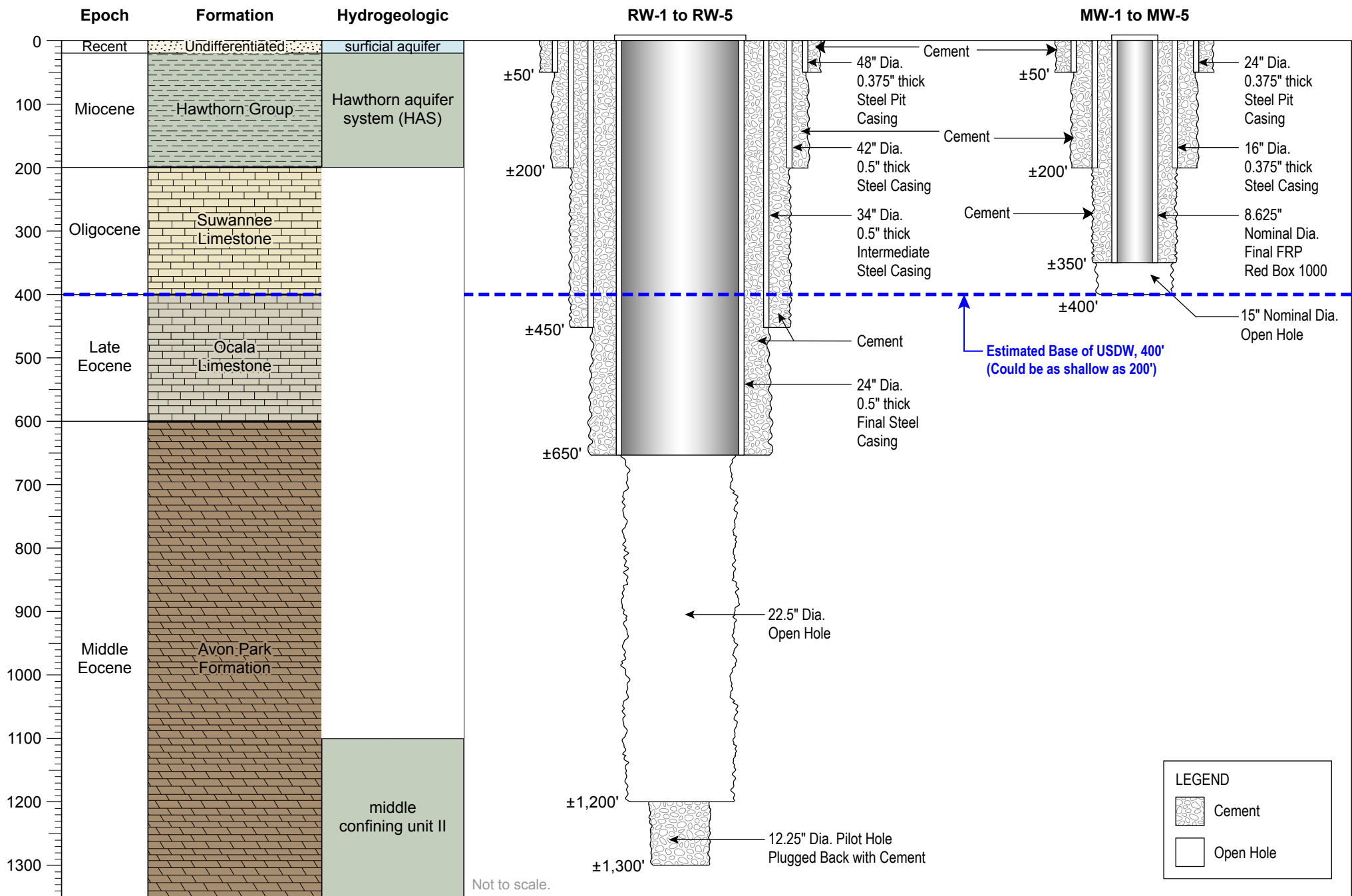


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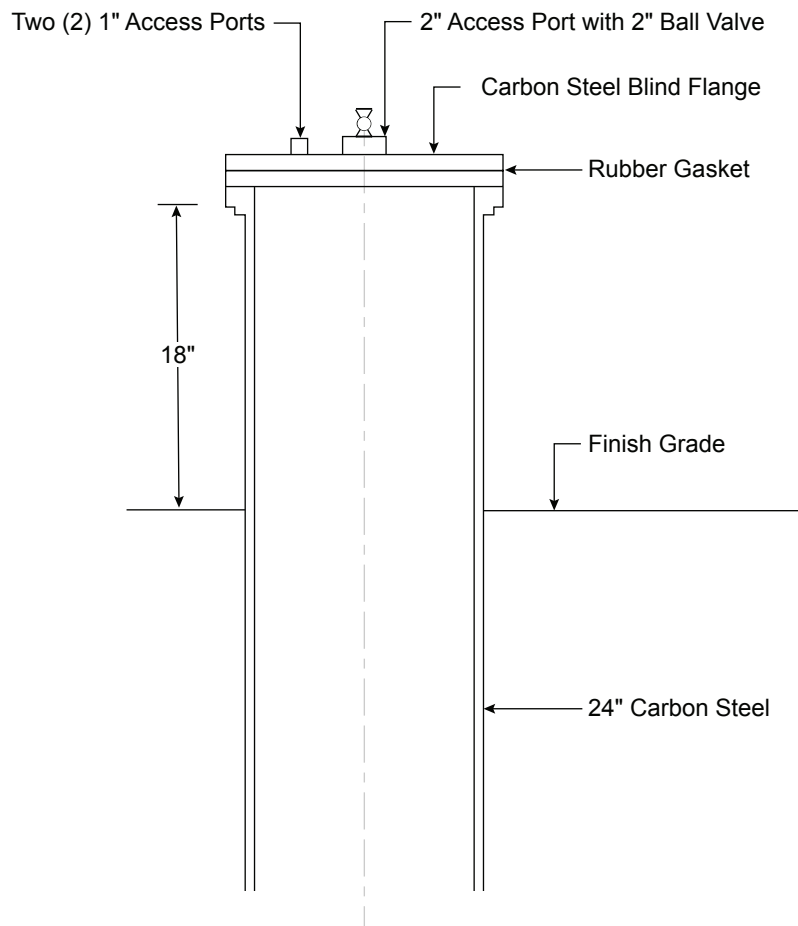
WallerConsultingEngineeringLLC



DRAWING No. 3
Typical Pad Monitor Well
Construction Diagram



Drawing No. 4
Well Completion Detail
 City of Tampa HFCWTP



Notes:

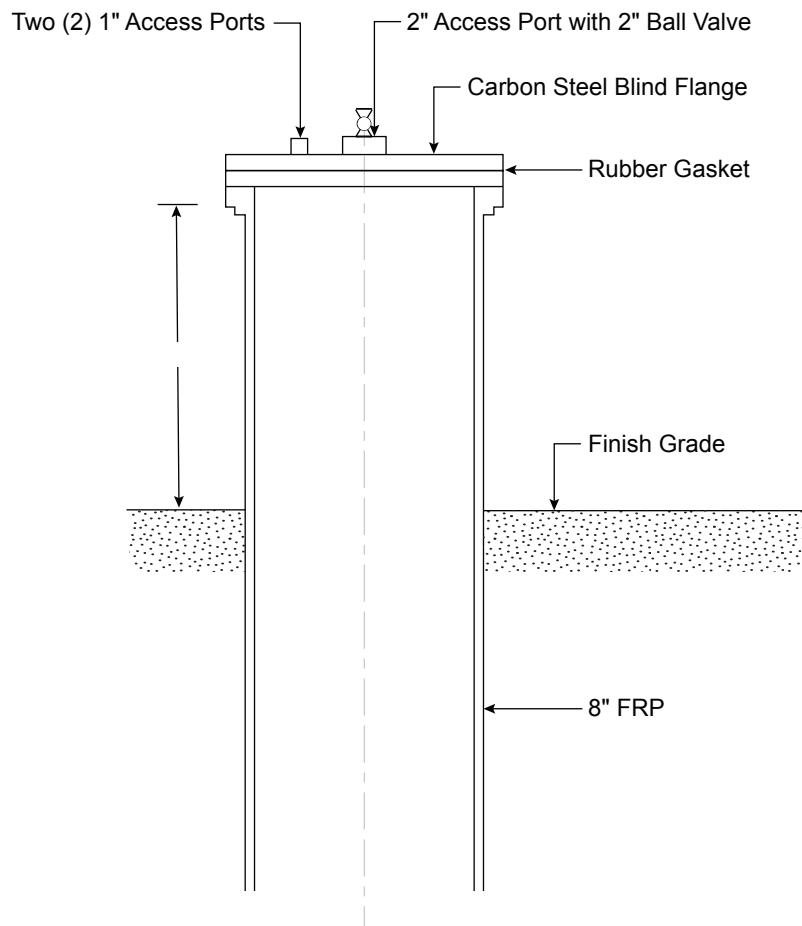
1. Drawing not to scale
2. Surface and Intermediate casings will be finished two-feet below grade.

Drawing No. 5

Recharge Wells (RW-1 through RW-5)
Temporary Wellhead Completion Details
City of Tampa HFC

Waller Consulting Engineering LLC





Notes:

1. Drawing not to scale
2. Surface and Intermediate casings will be finished two-feet below grade.

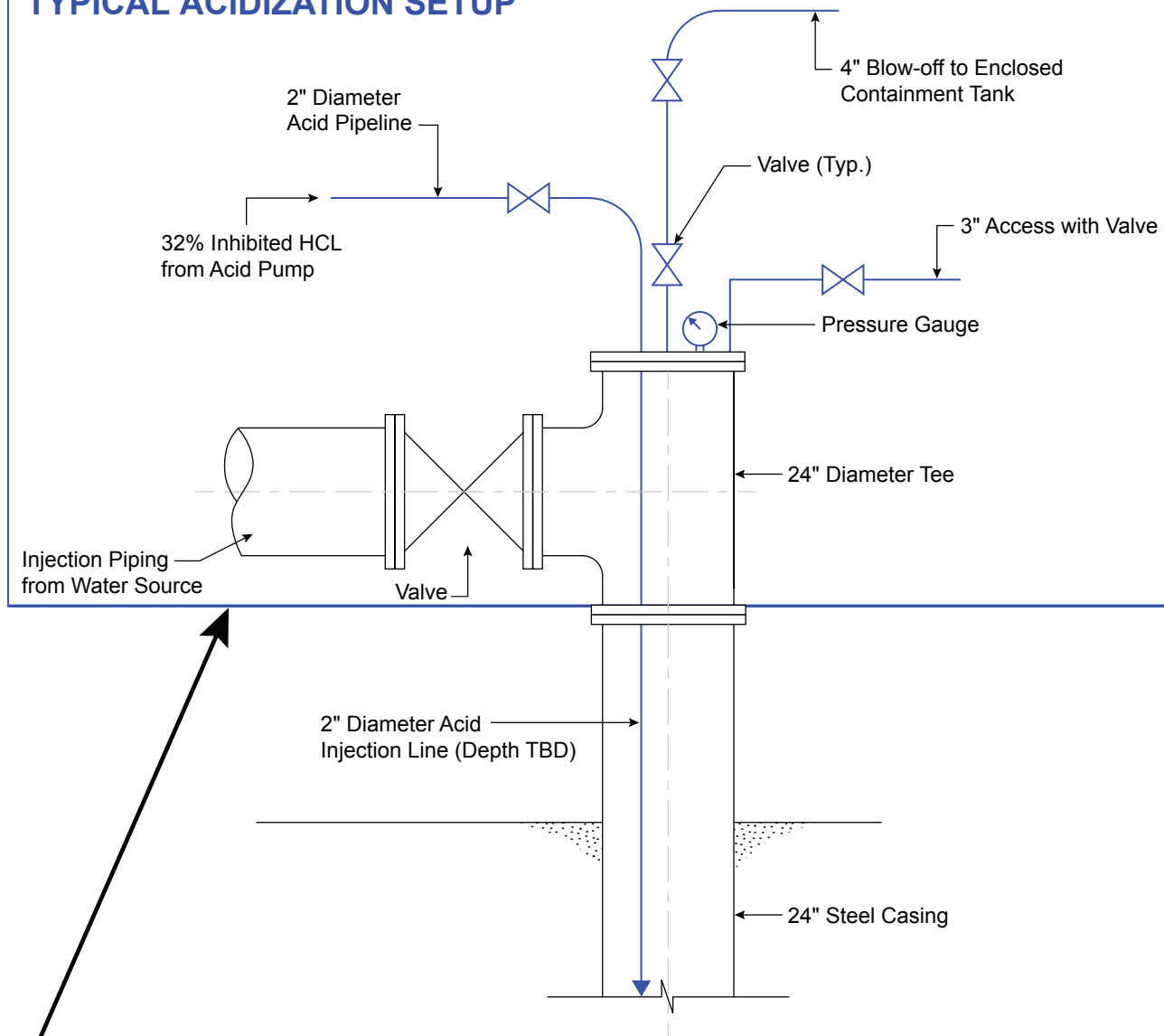
Drawing No. 6

Monitor Wells (MW-1 through MW-5)
Temporary Wellhead Completion Details
City of Tampa HFC

Waller Consulting Engineering LLC



TYPICAL ACIDIZATION SETUP



RECHARGE WELLS

Drawing not to scale

Notes:

Acidization wellhead and temporary conveyance for flush water will be provided by Drilling Contractor. Acidization setup details will be submitted to Engineer for review.

CONTRACT ITEMS

PHASE I - RECHARGE WELL RW-1

CONTRACT ITEM I-1: MOBILIZATION AND DEMOBILIZATION

Description: The CONTRACTOR shall furnish all labor, materials, equipment and services to perform those operations necessary for the movement of personnel, equipment, supplies and incidentals to the project site. Includes all work as specified in Section 01505 Mobilization/Demobilization and Site Work and Section 01500 Construction Facilities and Temporary Controls. Includes installation and subsequent removal of the drilling containment pad, pad monitoring wells, and temporary facilities, as well as sampling of the pad monitoring wells in accordance with Section 02311 Water Quality Sampling and Testing. The costs of any bonds, maintenance of traffic, temporary utilities required for the work, and other pre-construction expenses necessary for the start of the Work is included under this Contract Item. The cost of all other work as shown, specified, directed or required for the expressed intent of the project that is not specifically included under other Contract Items shall also be included under this Contract Item. The value of Bid Item I-1 shall not exceed 30 percent of the total value of Phase I.

Measurement and Payment for Mobilization: Shall be made at the Contract Lump Sum Bid Price.

CONTRACT ITEM I-2: SET PIT CASING

Description: CONTRACTOR shall provide and install pit casing to the depth selected by CONTRACTOR, complete.

Measurement and Payment for SET PIT CASING: Shall be made at the Contract Lump Sum Bid Price.

CONTRACT ITEM I-3: DRILL PILOT HOLE

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for drilling and sampling of boreholes by the rotary method or reverse-air drilling method in accordance with Section 2673 Drilling.

Measurement and Payment for DRILL PILOT HOLE: Shall be made at the unit price per foot drilled in accordance with the Bid Proposal Payment for all sampling and testing activities during drilling, as described in Section 02673, Drilling shall be included in the unit price per foot.

Drilling depths and casing depths are estimates only. The actual depths of these items shall be more or less as determined in the field by ENGINEER. Unit costs for these items shall remain the same, regardless of the actual depths or quantities used.

CONTRACT ITEM I-4: PILOT HOLE REAMING or OPEN HOLE

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for reaming pilot hole or drilling open hole by the rotary method, complete, as specified in Section 02673, Drilling.

Measurement and Payment for PILOT HOLE REAMING or OPEN HOLE: Shall be made at the unit price per foot drilled in accordance with the Bid Proposal. Payment for all sampling and testing activities during drilling, as described in Section 02673, Drilling shall be included in the unit price per foot.

Drilling depths and casing depths are estimates only. The actual depths of these items shall be more or less as determined in the field by ENGINEER. Unit costs for these items shall remain the same, regardless of the actual depths or quantities used.

CONTRACT ITEM I-5: GEOPHYSICAL LOGGING

Description: The CONTRACTOR shall furnish all labor, materials, equipment and services to perform those operations necessary for geophysical logging of the boreholes as specified in Section 02679, Geophysical Logging and Section 02575 Mechanical Integrity Testing.

Measurement and Payment for GEOPHYSICAL LOGGING: Shall be made at the unit price per logging event in accordance with the Bid Proposal. Standby time during logging shall be included Unit Price Bid price. No additional standby time shall be awarded during the logging events, including waiting on cement time for temperature logging following each stage of cementing the casings.

CONTRACT ITEM I-6: FURNISH AND INSTALL CASING

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for furnishing and installing the well casing and all related fittings, appurtenances, and transition adapters, complete as specified in Section 02674, Casing.

Measurement and Payment for FURNISH AND INSTALL CASING: Payment will be made at the unit prices per foot installed in accordance with the Bid Proposal.

CONTRACT ITEM I-7: GROUTING

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for furnishing and installing the grout seal as specified in Specification Section 02677, Grout Seal, and as shown on the contract drawings. Includes installation of drillable bridge plug, and back-plugging of pilot holes.

Measurement and Payment for GROUTING: Shall be made at the unit price in accordance with the Bid Proposal.

CONTRACT ITEM I-8: GRAVEL

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for emplacing clean gravel in highly permeable zones as specified in Specification Section 02677, Grout Seal.

Measurement and Payment for GRAVEL: Shall be made at the unit price per cubic yard installed in accordance with the Bid Proposal.

CONTRACT ITEM I-9: PRESSURE TEST CASING

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for demonstrating the final casing pressure test as specified in Specification Section 02674, Casing and Section 02575, Mechanical Integrity Test.

Measurement and Payment for PRESSURE TEST CASING: Shall be made at the Contract Lump Sum Bid Price in accordance with the Bid Proposal.

CONTRACT ITEM I-10: CORING

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary to drill, collect, and store core samples as specified in Specification Section 02676, Coring.

Measurement and Payment for CORING: Shall be made at the unit price in accordance with the Bid Proposal. Payment will only be made for successful core retrievals as described in Section 02676, Coring.

CONTRACT ITEM I-11: PACKER TEST SETUP

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for installing and removing the packer, setting the packer, inflating the packer, installing and removing pumping equipment (including annular pump), deflating the packer, and removing the packer from the well as specified in Specification Section 02987, Packer Testing. This will include all time and materials necessary for storing, managing, and disposing of water generated from the packer tests.

Measurement and Payment for PACKER TEST SETUP: Shall be made at the Contract Bid Price in accordance with the Bid Proposal.

CONTRACT ITEM I-12: PACKER TEST PUMPING TIME

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for the pumping, data logging, and recovery testing during the packer test as specified in Specification Section 02987, Packer Testing. This line item will not be used for the time required to manage and dispose of water generated from the packer test.

Measurement and Payment for PACKER TEST PUMPING TIME: Shall be made at the unit price per hour, to the nearest 1/2-hour in accordance with the Bid Proposal. Payment to CONTRACTOR shall also be made at the same unit price for running the preliminary test to determine if a suitable hydraulic seal is obtained. Payment for running the annulus tests shall be included in the unit price per hour to the nearest 1/2-hour of pumping time.

CONTRACT ITEM I-13: PUMPING TEST SETUP

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for setup of pumping test, including furnishing, temporarily installing, and removing the high-capacity pump, solids removal system, driver and associated discharge piping, and storage as specified in Specification Section 02681, Pumping Tests. This will include all time and materials necessary for storing, managing, and disposing of water generated from the pumping tests.

Measurement and Payment for PUMPING TEST SETUP: Shall be made at the Contract Lump Sum Bid Price in accordance with the Bid Proposal.

CONTRACT ITEM I-14: PUMPING TEST PUMPING TIME

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for the pumping, data logging, recovery testing, and preliminary pumping test as specified in Specification Section 02981, Pumping Tests. This line item will not be used for the time required to manage and dispose of water generated from the pumping test, unless an injection test is conducted, as directed by ENGINEER.

Measurement and Payment for PUMPING TEST PUMPING TIME: Shall be made at the unit price per hour, to the nearest 1/2-hour in accordance with the Bid Proposal. CONTRACTOR will not be paid the hourly rate for the pumping test during the time the equipment is not actually in use or in the event the pumping test is not performed for the full duration directed by ENGINEER.

CONTRACT ITEM I-15: WELL DEVELOPMENT

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary to complete development of well as specified in Specification Section 02678, Well Development. This will include all time and materials necessary for storing, settling, filtering, managing, and disposing of water generated from the development.

Measurement and Payment for WELL DEVELOPMENT: Shall be made at the unit price per hour, to the nearest 1/2-hour in accordance with the Bid Proposal. CONTRACTOR will not be paid the hourly rate for development during the time the equipment is not actually in use or for any equipment repair, or for any time, in the opinion of ENGINEER, that the development procedure is not being accomplished in accordance with these Specifications, its direction, or both. CONTRACTOR will not be paid the hourly rate for development during the time required to manage and dispose of water generated from the development. Payment at the hourly rate shall constitute full

compensation for all labor, materials, and equipment specified in this section. Includes setting of high- capacity pump or other necessary equipment required to develop well.

CONTRACT ITEM I-16: INJECTION TEST SETUP

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for setup of injection test, including furnishing, temporarily installing, and removing the high-capacity pump, driver and associated injection piping as specified in Specification Section 02985, Injection Test.

Measurement and Payment for INJECTION TEST SETUP: Shall be made at the Contract Lump Sum Bid Price in accordance with the Bid Proposal.

CONTRACT ITEM I-17: INJECTION TEST PUMPING TIME

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for the pumping, data logging, recovery testing, and preliminary injection test as specified in Specification Section 02985, Injection Test.

Measurement and Payment for INJECTION TEST PUMPING TIME: Shall be made at the unit price per hour, to the nearest 1/2-hour in accordance with the Bid Proposal.

CONTRACTOR will not be paid the hourly rate for the injection test during the time the equipment is not actually in use or in the event the pumping test is not performed for the full duration directed by ENGINEER.

CONTRACT ITEM I-18: WELLHEAD

Description: The CONTRACTOR shall furnish all labor, materials, and equipment for installing the well heads, complete as specified in Specification Section 02689, Wellhead Capping and Valves, and in Drawings.

Measurement and Payment for WELLHEAD: Payment for all work, materials, and equipment shall be at the lump sum unit prices for temporary wellheads and pads in accordance with the Bid Proposal.

CONTRACT ITEM I-19: STANDBY TIME

Description: Shutdown time of the equipment and crew for any portion of the authorized work day when ENGINEER's representative orders Work to cease or when other activities at the site preclude work by CONTRACTOR, as approved by ENGINEER's

representative as specified in Specification Section 02686, Standby Time and Down Time.

Measurement and Payment for STANDBY TIME: Payment for standby time (resulting from each cause approved by ENGINEER) shall be at the unit price per hour, to the nearest half-hour per day in accordance with the Bid Proposal.

DOWNTIME: All downtime shall be at the sole expense of CONTRACTOR.

CONTRACT ITEM I-20: EXTRA WORK

Description: That time, other than standby time, during which CONTRACTOR is directed to provide drilling rig and support equipment, and a crew to perform extra work not specifically addressed elsewhere in these Contract Documents as specified in Specification Section 02686.

Measurement and Payment for EXTRA WORK: Payment for furnishing a crew and drilling rig and support equipment to perform extra work at the direction of ENGINEER or the City shall be at the unit price per hour in accordance with the Bid Proposal.

CONTRACT ITEM I-21: WATER SAMPLING

Description: The CONTRACTOR shall furnish all labor, materials, and equipment for water sampling and water quality testing work to be performed as specified in Specification Section 02311, Water Quality Testing and Sampling.

Measurement and Payment for WATER SAMPLING: Payment for all work, materials, and equipment specified in this section shall be at the unit price or lump sum unit price in accordance with the Bid Proposal.

PHASE I - MONITORING WELL MW-1

CONTRACT ITEM I-22: MOBILIZATION AND DEMOBILIZATION

Description: The CONTRACTOR shall furnish all labor, materials, equipment and services to perform those operations necessary for the movement of personnel, equipment, supplies and incidentals to the project site. Includes all work as specified in Section 01505 Mobilization/Demobilization and Site Work and Section 01500 Construction Facilities and Temporary Controls. Includes installation and plugging and abandonment of pad monitoring wells and sampling of pad wells as specified in Section

02311 Water Quality Sampling and Testing. The costs of any bonds, maintenance of traffic and other pre-construction expenses necessary for the start of the Work is included under this Contract Item. The cost of all other work as shown, specified, directed or required for the expressed intent of the project that is not specifically included under other Contract Items shall also be included under this Contract Item. The value of Bid Item I-22 shall not exceed 20 percent of the total value of Phase I MW-1.

Measurement and Payment for Mobilization: Shall be made at the Contract Lump Sum Bid Price in accordance with the Bid Proposal.

CONTRACT ITEM I-23: SET PIT CASING

Description: CONTRACTOR shall provide and install pit casing to the depth selected by CONTRACTOR, complete.

Measurement and Payment for SET PIT CASING: Shall be made at the Contract Lump Sum Bid Price in accordance with the Bid Proposal.

CONTRACT ITEM I-24: DRILL PILOT HOLE

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for drilling and sampling of boreholes by the rotary method, complete, during the drilling activities as specified in Section 02673, Drilling.

Measurement and Payment for DRILL PILOT HOLE: Shall be made at the unit price per foot drilled in accordance with the Bid Proposal. Payment for all sampling and testing activities during drilling, as described in Section 02673, Drilling shall be included in the unit price per foot.

Drilling depths and casing depths are estimates only. The actual depths of these items shall be more or less as determined in the field by ENGINEER. Unit costs for these items shall remain the same, regardless of the actual depths or quantities used.

CONTRACT ITEM I-25: PILOT HOLE REAMING or OPEN HOLE

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for reaming pilot hole or drilling open hole by the rotary method, complete, as specified in Section 02673, Drilling.

Measurement and Payment for PILOT HOLE REAMING or OPEN HOLE: Shall be made at the unit price per foot drilled in accordance with the Bid Proposal. Payment for all sampling and testing activities during drilling, as described in Section 02673, Drilling shall be included in the unit price per foot.

Drilling depths and casing depths are estimates only. The actual depths of these items shall be more or less as determined in the field by ENGINEER. Unit costs for these items shall remain the same, regardless of the actual depths or quantities used.

CONTRACT ITEM I-26: GEOPHYSICAL LOGGING

Description: The CONTRACTOR shall furnish all labor, materials, equipment and services to perform those operations necessary for geophysical logging of the boreholes as specified in Section 02679, Geophysical Logging.

Measurement and Payment for GEOPHYSICAL LOGGING: Shall be made at the unit price per logging event in accordance with the Bid Proposal. Standby time during logging shall be included Unit Price Bid price. No additional standby time shall be awarded during the logging events, including waiting on cement time for temperature logging following each stage of cementing the casings.

CONTRACT ITEM I-27: FURNISH AND INSTALL CASING

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for furnishing and installing the well casing and all related fittings, appurtenances, and transition adapters, complete as specified in Section 02674, Casing.

Measurement and Payment for FURNISH AND INSTALL CASING: Payment will be made at the unit prices per foot installed in accordance with the Bid Proposal.

CONTRACT ITEM I-28: GROUTING

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for furnishing and installing the grout seal as specified in Specification Section 02677, Grout Seal. Includes installation of drillable bridge plug and back-plugging of pilot holes, if required. Temperature logging following cement stages on the casing will be accounted for in the per unit cost for grouting.

Measurement and Payment for GROUTING: Shall be made at the unit price in accordance with the Bid Proposal.

CONTRACT ITEM I-29: GRAVEL

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for emplacing clean ¼-inch pea gravel in highly permeable zones as specified in Specification Section 02677, Grout Seal.

Measurement and Payment for GRAVEL: Shall be made at the unit price per cubic yard installed in accordance with the Bid Proposal.

CONTRACT ITEM I-30: PACKER TEST SETUP

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for installing and removing the packer, setting the packer, inflating the packer, installing and removing pumping equipment (including annular pump), deflating the packer, and removing the packer from the well as specified in Specification Section 02987, Packer Testing. This will include all time and materials necessary for storing, managing, and disposing of water generated from the packer tests.

Measurement and Payment for PACKER TEST SETUP: Shall be made at the Contract Bid Price in accordance with the Bid Proposal.

CONTRACT ITEM I-31: PACKER TEST PUMPING TIME

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for the pumping, data logging, and recovery testing during the packer test as specified in Specification Section 02987, Packer Testing. This line item will not be used for the time required to manage and dispose of water generated from the packer test.

Measurement and Payment for PACKER TEST PUMPING TIME: Shall be made at the unit price per hour, to the nearest 1/2-hour in accordance with the Bid Proposal. Payment to CONTRACTOR shall also be made at the same unit price for running the preliminary test to determine if a suitable hydraulic seal is obtained. Payment for running the annulus tests shall be included in the unit price per hour to the nearest 1/2-hour of pumping time.

CONTRACT ITEM I-32: DEVELOPMENT/PUMPING TEST

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary to complete development of well as specified in Specification Section 02678, Well Development. This will include all time and materials necessary for storing, settling, filtering, managing, and disposing of water generated from the development.

Measurement and Payment for DEVELOPMENT: Shall be made at the unit price per hour, to the nearest 1/2-hour in accordance with the Bid Proposal. CONTRACTOR will not be paid the hourly rate for development during the time the equipment is not actually in use or for any equipment repair, or for any time, in the opinion of ENGINEER, that the development procedure is not being accomplished in accordance with these Specifications, its direction, or both. CONTRACTOR will not be paid the hourly rate for development during the time required to manage and dispose of water generated from the development. Payment at the hourly rate shall constitute full compensation for all labor, materials, and equipment specified in this section. Includes setting of pump and other necessary equipment required to develop well. Includes short duration constant rate pump test. Development of the pad monitoring wells will be paid at the hourly rate.

CONTRACT ITEM I-33: WELLHEAD

Description: The CONTRACTOR shall furnish all labor, materials, and equipment for installing the wellheads and various manually operated valves and check valves in the wellheads, complete as specified in Specification Section 02689, Wellhead Capping and Valves, and in Drawings.

Measurement and Payment for WELLHEAD: Payment for all work, materials, and equipment shall be at the lump sum unit prices for temporary wellheads and pads in accordance with the Bid Proposal.

CONTRACT ITEM I-34: STANDBY TIME

Description: Shutdown time of the equipment and crew for any portion of the authorized work schedule when ENGINEER's representative orders Work to cease or when other activities at the site preclude work by CONTRACTOR, as approved by ENGINEER's representative as specified in Specification Section 02686, Standby Time and Down Time.

Measurement and Payment for STANDBY TIME: Payment for standby time (resulting from each cause approved by ENGINEER) shall be at the unit price per hour, to the nearest half-hour per day in accordance with the Bid Proposal.

DOWNTIME: All downtime shall be at the sole expense of CONTRACTOR.

CONTRACT ITEM I-35: EXTRA WORK

Description: That time, other than standby time, during which CONTRACTOR is directed to provide drilling rig and support equipment, and a crew to perform extra work not specifically addressed elsewhere in these Contract Documents as specified in Specification Section 02686.

Measurement and Payment for EXTRA WORK: Payment for furnishing a crew and drilling rig and support equipment to perform extra work at the direction of ENGINEER or the City shall be at the unit price per hour in accordance with the Bid Proposal.

CONTRACT ITEM I-36: WATER SAMPLING

Description: The CONTRACTOR shall furnish all labor, materials, and equipment for water sampling and water quality testing work to be performed as specified in Specification Section 02311, Water Quality Testing and Sampling.

Measurement and Payment for WATER SAMPLING: Payment for all work, materials, and equipment specified in this section shall be at the unit price or lump sum unit price in accordance with the Bid Proposal.

PHASE II - RECHARGE WELL RW-2, RW-3, RW-4, RW-5

CONTRACT ITEM II-1, II-35, II-69 and II-103: MOBILIZATION

Description: The CONTRACTOR shall furnish all labor, materials, equipment and services to perform those operations necessary for the movement of personnel, equipment, supplies and incidentals to the next well site. Includes all work as specified in Section 01505 Mobilization/Demobilization and Site Work and Section 01500 Construction Facilities and Temporary Controls. Includes installation and plugging and abandonment of pad monitoring wells and sampling of pad wells as specified in Section 02311 Water Quality Sampling and Testing. The costs of any bonds, maintenance of traffic and other pre-construction expenses necessary for the start of the Work is

included under this Contract Item. The cost of all other work as shown, specified, directed or required for the expressed intent of the project that is not specifically included under other Contract Items shall also be included under this Contract Item. The value of Bid Item II-1 shall not exceed 30 percent of the total value of Phase II.

Measurement and Payment for Mobilization: Shall be made at the Contract Lump Sum Bid Price in accordance with the Bid Proposal.

CONTRACT ITEM II-2, II-36, II-70, II-104: SET PIT CASING

Description: CONTRACTOR shall provide and install pit casing to the depth selected by CONTRACTOR, complete.

Measurement and Payment for SET PIT CASING: Shall be made at the Contract Lump Sum Bid Price in accordance with the Bid Proposal.

CONTRACT ITEM II-3, II-37, II-71, II-105: DRILL PILOT HOLE

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for drilling and sampling of boreholes by the rotary method, complete, during the drilling activities as specified in Section 02673, Drilling.

Measurement and Payment for DRILL PILOT HOLE: Shall be made at the unit price per foot drilled in accordance with the Bid Proposal. Payment for all sampling and testing activities during drilling, as described in Section 02673, Drilling shall be included in the unit price per foot.

Drilling depths and casing depths are estimates only. The actual depths of these items shall be more or less as determined in the field by ENGINEER. Unit costs for these items shall remain the same, regardless of the actual depths or quantities used.

CONTRACT ITEM II-4, II-38, II-72, II-106: PILOT HOLE REAMING or OPEN HOLE

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for reaming pilot hole or drilling open hole by the rotary method, complete, as specified in Section 02673, Drilling.

Measurement and Payment for PILOT HOLE REAMING or OPEN HOLE: Shall be made at the unit price per foot drilled in accordance with the Bid Proposal. Payment for all

sampling and testing activities during drilling, as described in Section 02673, Drilling shall be included in the unit price per foot.

Drilling depths and casing depths are estimates only. The actual depths of these items shall be more or less as determined in the field by ENGINEER. Unit costs for these items shall remain the same, regardless of the actual depths or quantities used.

CONTRACT ITEM II-5, II-39, II-73, II-107: GEOPHYSICAL LOGGING

Description: The CONTRACTOR shall furnish all labor, materials, equipment and services to perform those operations necessary for geophysical logging of the boreholes as specified in Section 02679, Geophysical Logging and Section 02575 Mechanical Integrity Testing.

Measurement and Payment for GEOPHYSICAL LOGGING: Shall be made at the unit price per logging event in accordance with the Bid Proposal. Standby time during logging shall be included Unit Price Bid price. No additional standby time shall be awarded during the logging events, including waiting on cement time for temperature logging following each stage of cementing the casings.

CONTRACT ITEM II-6, II-40, II-74, II-108: FURNISH AND INSTALL CASING

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for furnishing and installing the well casing and all related fittings, appurtenances, and transition adapters, complete as specified in Section 02674, Casing.

Measurement and Payment for FURNISH AND INSTALL CASING: Payment will be made at the unit prices per foot installed in accordance with the Bid Proposal.

CONTRACT ITEM II-7, II-41, II-75, II-109: GROUTING

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for furnishing and installing the grout seal as specified in Specification Section 02677, Grout Seal. Includes installation of drillable bridge plug, and back-plugging of pilot holes.

Measurement and Payment for GROUTING: Shall be made at the unit price in accordance with the Bid Proposal.

CONTRACT ITEM II-8, II-42, II-76, II-110: GRAVEL

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for emplacing clean gravel in highly permeable zones as specified in Specification Section 02677, Grout Seal.

Measurement and Payment for GRAVEL: Shall be made at the unit price per cubic yard installed in accordance with the Bid Proposal.

CONTRACT ITEM II-9, II-43, II-77, II-111: PRESSURE TEST CASING

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for demonstrating the final casing pressure test as specified in Specification Section 02674, Casing and Section 02575, Mechanical Integrity Test.

Measurement and Payment for PRESSURE TEST CASING: Shall be made at the Contract Lump Sum Bid Price in accordance with the Bid Proposal.

CONTRACT ITEM II-10, II-44, II-78, II-112: CORING

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary to drill, collect, and store core samples as specified in Specification Section 02676, Coring.

Measurement and Payment for CORING: Shall be made at the unit price in accordance with the Bid Proposal. Payment will only be made for successful core retrievals as described in Section 02676, Coring.

CONTRACT ITEM II-11, II-45, II-79, II-113: PACKER TEST SETUP

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for installing and removing the packer, setting the packer, inflating the packer, installing and removing pumping equipment (including annular pump), deflating the packer, and removing the packer from the well as specified in Specification Section 02987, Packer Testing. This will include all time and materials necessary for storing, managing, and disposing of water generated from the packer tests.

Measurement and Payment for PACKER TEST SETUP: Shall be made at the Contract Bid Price in accordance with the Bid Proposal.

CONTRACT ITEM II-12, II-46, II-80, II-114: PACKER TEST PUMPING TIME

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for the pumping, data logging, and recovery testing during the packer test as specified in Specification Section 02987, Packer Testing. This line item will not be used for the time required to manage and dispose of water generated from the packer test.

Measurement and Payment for PACKER TEST PUMPING TIME: Shall be made at the unit price per hour, to the nearest 1/2-hour in accordance with the Bid Proposal. Payment to CONTRACTOR shall also be made at the same unit price for running the preliminary test to determine if a suitable hydraulic seal is obtained. Payment for running the annulus tests shall be included in the unit price per hour to the nearest 1/2-hour of pumping time.

CONTRACT ITEM II-13, II-47, II-81, II-115: PUMPING TEST SETUP

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for setup of pumping test, including furnishing, temporarily installing, and removing the high-capacity pump, driver and associated discharge piping, and storage as specified in Specification Section 02681, Pumping Tests. This will include all time and materials necessary for storing, managing, and disposing of water generated from the pumping tests.

Measurement and Payment for PUMPING TEST SETUP: Shall be made at the Contract Lump Sum Bid Price in accordance with the Bid Proposal.

CONTRACT ITEM II-14, II-48, II-82, II-116: PUMPING TEST PUMPING TIME

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for the pumping, data logging, recovery testing, and preliminary pumping test as specified in Specification Section 02981, Pumping Tests. This line item will not be used for the time required to manage and dispose of water generated from the pumping test, unless an injection test is conducted, as directed by ENGINEER.

Measurement and Payment for PUMPING TEST PUMPING TIME: Shall be made at the unit price per hour, to the nearest 1/2-hour in accordance with the Bid Proposal. CONTRACTOR will not be paid the hourly rate for the pumping test during the time the equipment is not actually in use or in the event the pumping test is not performed for the full duration directed by ENGINEER.

CONTRACT ITEM II-15, II-49, II-83, II-117: DEVELOPMENT

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary to complete development of well as specified in Specification Section 02678, Well Development. This will include all time and materials necessary for storing, settling, filtering, managing, and disposing of water generated from the development.

Measurement and Payment for DEVELOPMENT: Shall be made at the unit price per hour, to the nearest 1/2-hour in accordance with the Bid Proposal. CONTRACTOR will not be paid the hourly rate for development during the time the equipment is not actually in use or for any equipment repair, or for any time, in the opinion of ENGINEER, that the development procedure is not being accomplished in accordance with these Specifications, its direction, or both. CONTRACTOR will not be paid the hourly rate for development during the time required to manage and dispose of water generated from the development. Payment at the hourly rate shall constitute full compensation for all labor, materials, and equipment specified in this section. Includes setting of high- capacity pump or other necessary equipment required to develop well. Development of the pad monitoring wells will be paid at the hourly rate.

CONTRACT ITEM II-16, II-50, II-84, II-118: WELLHEAD

Description: The CONTRACTOR shall furnish all labor, materials, and equipment for installing the well heads, complete as specified in Specification Section 02689, Wellhead Capping and Valves, and in Drawings.

Measurement and Payment for WELLHEAD: Payment for all work, materials, and equipment shall be at the lump sum unit prices for temporary wellheads and pads in accordance with the Bid Proposal.

CONTRACT ITEM II-17, II-51, II-85, II-119: STANDBY TIME

Description: Shutdown time of the equipment and crew for any portion of the authorized work day when ENGINEER's representative orders Work to cease or when other activities at the site preclude work by CONTRACTOR, as approved by ENGINEER's representative as specified in Specification Section 02686, Standby Time and Down Time.

Measurement and Payment for STANDBY TIME: Payment for standby time (resulting from each cause approved by ENGINEER) shall be at the unit price per hour, to the nearest half-hour per day in accordance with the Bid Proposal.

DOWNTIME: All downtime shall be at the sole expense of CONTRACTOR.

CONTRACT ITEM II-18, II-52, II-86, II-120: EXTRA WORK

Description: That time, other than standby time, during which CONTRACTOR is directed to provide drilling rig and support equipment, and a crew to perform extra work not specifically addressed elsewhere in these Contract Documents as specified in Specification Section 02686.

Measurement and Payment for EXTRA WORK: Payment for furnishing a crew and drilling rig and support equipment to perform extra work at the direction of ENGINEER or the City shall be at the unit price per hour in accordance with the Bid Proposal.

CONTRACT ITEM II-19, II-53, II-87, II-121: WATER SAMPLING

Description: The CONTRACTOR shall furnish all labor, materials, and equipment for water sampling and water quality testing work to be performed as specified in Specification Section 02311, Water Quality Testing and Sampling.

Measurement and Payment for WATER SAMPLING: Payment for all work, materials, and equipment specified in this section shall be at the unit price or lump sum unit price in accordance with the Bid Proposal.

PHASE II – MONITORING WELL MW-2, MW-3, MW-4, MW-5

CONTRACT ITEM II-20, II-54, II-88, II-122: MOBILIZATION AND DEMOBILIZATION

Description: The CONTRACTOR shall furnish all labor, materials, equipment and services to perform those operations necessary for the movement of personnel, equipment, supplies and incidentals to the project site. Includes all work as specified in Section 01505 Mobilization/Demobilization and Site Work and Section 01500 Construction Facilities and Temporary Controls. Includes installation and plugging and abandonment of pad monitoring wells and sampling of pad wells as specified in Section 02311 Water Quality Sampling and Testing. The costs of any bonds, maintenance of traffic and other pre-construction expenses necessary for the start of the Work in

included under this Contract Item. The cost of all other work as shown, specified, directed or required for the expressed intent of the project that is not specifically included under other Contract Items shall also be included under this Contract Item. The value of Bid Item I-22 shall not exceed 20 percent of the total value of Phase II MW-2.

Measurement and Payment for Mobilization: Shall be made at the Contract Lump Sum Bid Price in accordance with the Bid Proposal.

CONTRACT ITEM II-21, II-55, II-89, II-123: SET PIT CASING

Description: CONTRACTOR shall provide and install pit casing to the depth selected by CONTRACTOR, complete.

Measurement and Payment for SET PIT CASING: Shall be made at the Contract Lump Sum Bid Price in accordance with the Bid Proposal.

CONTRACT ITEM II-22, II-56, II-90, II-124: DRILL PILOT HOLE

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for drilling and sampling of boreholes by the rotary method, complete, during the drilling activities as specified in Section 02673, Drilling.

Measurement and Payment for DRILL PILOT HOLE: Shall be made at the unit price per foot drilled in accordance with the Bid Proposal. Payment for all sampling and testing activities during drilling, as described in Section 02673, Drilling shall be included in the unit price per foot.

Drilling depths and casing depths are estimates only. The actual depths of these items shall be more or less as determined in the field by ENGINEER. Unit costs for these items shall remain the same, regardless of the actual depths or quantities used.

CONTRACT ITEM II-23, II-57, II-91, II-125: PILOT HOLE REAMING or OPEN HOLE

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for reaming pilot hole or drilling open hole by the rotary method, complete, as specified in Section 02673, Drilling.

Measurement and Payment for PILOT HOLE REAMING or OPEN HOLE: Shall be made at the unit price per foot drilled in accordance with the Bid Proposal. Payment for all

sampling and testing activities during drilling, as described in Section 02673, Drilling shall be included in the unit price per foot.

Drilling depths and casing depths are estimates only. The actual depths of these items shall be more or less as determined in the field by ENGINEER. Unit costs for these items shall remain the same, regardless of the actual depths or quantities used.

CONTRACT ITEM II-24, II-58, II-92, II-126: GEOPHYSICAL LOGGING

Description: The CONTRACTOR shall furnish all labor, materials, equipment and services to perform those operations necessary for geophysical logging of the boreholes as specified in Section 02679, Geophysical Logging.

Measurement and Payment for GEOPHYSICAL LOGGING: Shall be made at the unit price per logging event in accordance with the Bid Proposal. Standby time during logging shall be included Unit Price Bid price. No additional standby time shall be awarded during the logging events, including waiting on cement time for temperature logging following each stage of cementing the casings.

CONTRACT ITEM II-25, II-59, II-93, II-127: FURNISH AND INSTALL CASING

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for furnishing and installing the well casing and all related fittings, appurtenances, and transition adapters, complete as specified in Section 02674, Casing.

Measurement and Payment for FURNISH AND INSTALL CASING: Payment will be made at the unit prices per foot installed in accordance with the Bid Proposal.

CONTRACT ITEM II-26, II-60, II-94, II-128: GROUTING

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for furnishing and installing the grout seal as specified in Specification Section 02677, Grout Seal. Includes installation of drillable bridge plug and back-plugging of pilot holes, if required. Temperature logging following cement stages on the casing will be accounted for in the per unit cost for grouting.

Measurement and Payment for GROUTING: Shall be made at the unit price in accordance with the Bid Proposal.

CONTRACT ITEM II-27, II-61, II-95, II-129: GRAVEL

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for emplacing clean ¼-inch pea gravel in highly permeable zones as specified in Specification Section 02677, Grout Seal.

Measurement and Payment for GRAVEL: Shall be made at the unit price per cubic yard installed in accordance with the Bid Proposal.

CONTRACT ITEM II-28, II-62, II-96, II-130: PACKER TEST SETUP

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for installing and removing the packer, setting the packer, inflating the packer, installing and removing pumping equipment (including annular pump), deflating the packer, and removing the packer from the well as specified in Specification Section 02987, Packer Testing. This will include all time and materials necessary for storing, managing, and disposing of water generated from the packer tests.

Measurement and Payment for PACKER TEST SETUP: Shall be made at the Contract Bid Price in accordance with the Bid Proposal.

CONTRACT ITEM II-29, II-63, II-97, II-131: PACKER TEST PUMPING TIME

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for the pumping, data logging, and recovery testing during the packer test as specified in Specification Section 02987, Packer Testing. This line item will not be used for the time required to manage and dispose of water generated from the packer test.

Measurement and Payment for PACKER TEST PUMPING TIME: Shall be made at the unit price per hour, to the nearest 1/2-hour in accordance with the Bid Proposal. Payment to CONTRACTOR shall also be made at the same unit price for running the preliminary test to determine if a suitable hydraulic seal is obtained. Payment for running the annulus tests shall be included in the unit price per hour to the nearest 1/2-hour of pumping time.

CONTRACT ITEM II-30, II-64, II-98, II-132: DEVELOPMENT/PUMPING TEST

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary to complete development of well as specified in Specification Section 02678, Well Development. This will include all time and materials necessary for storing, settling, filtering, managing, and disposing of water generated from the development.

Measurement and Payment for DEVELOPMENT: Shall be made at the unit price per hour, to the nearest 1/2-hour in accordance with the Bid Proposal. CONTRACTOR will not be paid the hourly rate for development during the time the equipment is not actually in use or for any equipment repair, or for any time, in the opinion of ENGINEER, that the development procedure is not being accomplished in accordance with these Specifications, its direction, or both. CONTRACTOR will not be paid the hourly rate for development during the time required to manage and dispose of water generated from the development. Payment at the hourly rate shall constitute full compensation for all labor, materials, and equipment specified in this section. Includes setting of pump and other necessary equipment required to develop well. Includes short duration constant rate pump test. Development of the pad monitoring wells will be paid at the hourly rate.

CONTRACT ITEM II-31, II-65, II-99, II-133: WELLHEAD

Description: The CONTRACTOR shall furnish all labor, materials, and equipment for installing the well heads and various manually operated valves and check valves in the wellheads, complete as specified in Specification Section 02689, Wellhead Capping and Valves, and in Drawings.

Measurement and Payment for WELLHEAD: Payment for all work, materials, and equipment shall be at the lump sum unit prices for temporary wellheads and pads in accordance with the Bid Proposal.

CONTRACT ITEM II-32, II-66, II-100, II-134: STANDBY TIME

Description: Shutdown time of the equipment and crew for any portion of the authorized work schedule when ENGINEER's representative orders Work to cease or when other activities at the site preclude work by CONTRACTOR, as approved by ENGINEER's representative as specified in Specification Section 02686, Standby Time and Down Time.

Measurement and Payment for STANDBY TIME: Payment for standby time (resulting from each cause approved by ENGINEER) shall be at the unit price per hour, to the nearest half-hour per day in accordance with the Bid Proposal.

DOWNTIME: All downtime shall be at the sole expense of CONTRACTOR.

CONTRACT ITEM II-33, II-67, II-101, II-135: EXTRA WORK

Description: That time, other than standby time, during which CONTRACTOR is directed to provide drilling rig and support equipment, and a crew to perform extra work not specifically addressed elsewhere in these Contract Documents as specified in Specification Section 02686.

Measurement and Payment for EXTRA WORK: Payment for furnishing a crew and drilling rig and support equipment to perform extra work at the direction of ENGINEER or the City shall be at the unit price per hour in accordance with the Bid Proposal.

CONTRACT ITEM II-34, II-68, II-102, II-136: WATER SAMPLING

Description: The CONTRACTOR shall furnish all labor, materials, and equipment for water sampling and water quality testing work to be performed as specified in Specification Section 02311, Water Quality Testing and Sampling.

Measurement and Payment for WATER SAMPLING: Payment for all work, materials, and equipment specified in this section shall be at the unit price or lump sum unit price in accordance with the Bid Proposal.

PHASE III WELL ACIDIZATION (ADD ALTERNATE CONTRACT ITEM)

CONTRACT ITEM III-1: ACIDIZATION SET UP

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for acidization including well kills and storage, as specified in Specification Section 02684, Well Acidization.

Measurement and Payment for ACIDIZATION SETUP: Payment for all work, materials, and equipment to prepare the well for acidization shall be at the lump sum unit price in accordance with the Bid Form. Estimated Unit Quantities are for set up at each recharge well for a total of five (5). Acidizations will only be performed at wells if required, and as determined by ENGINEER and the City.

CONTRACT ITEM III-2: FURNISH AND EMPLACE ACID

Description: The CONTRACTOR shall furnish all labor, materials, and equipment necessary for acid emplacement in well, as specified in Specification Section 02684, Well Acidization.

Measurement and Payment for FURNISH AND EMPLACE ACID: Payment for all work, materials, and equipment to furnish and emplace the acid in the well shall be at the unit price per 1000 gallons in accordance with the Bid Proposal. Estimated Unit Quantities for acid are the total acid estimated for the five (5) recharge wells. Acidizations will only be performed at wells if required, and as determined by ENGINEER and the City.

Page 1 of 2 –DMI Payment
City of Tampa – DMI Sub-(Contractors/Consultants/Suppliers) Payments
(DMI 30 FORM)

[] Partial [] Final

Contract No.: _____ WO (if any): _____ Contract Name: _____

Contractor Name: _____ Address: _____

Federal ID: _____ Phone: _____ Fax: _____ Email: _____

GC Pay Period: _____ Payment Request/Invoice Number: _____ City Department: _____

Total Amount Requested for pay period: \$ _____ Total Contract Amount (including change orders): \$ _____

↙ -Type of Ownership - S = SLBE, O = Other

Type, Federal ID	Company Name Address Phone & Fax	Total Subcontract Or PO Amount	Amount Paid To Date	Amount To Be Paid For This Period	Amount Pending Previously Reported	Sub Pay Period Ending Date

(Modifying This Form or Failure to Complete and Sign May Result in Non-Compliance)

Certification: I hereby certify that the above information is a true and accurate account of payments to subcontractors/consultants on this contract.

Signed: _____ Name/Title: _____ Date: _____

DMI 30 form (rev. 01/2026)

Note: Detailed Instructions for completing this form are on the next page

Forms must be signed and dated, or they will be considered incomplete. Failure to sign this document or return it unsigned can be cause for determining that a company is in non-compliance with Ordinance 2008-89.

Page 2 of 2 – DMI Payment

Instructions for completing DMI Sub-(Contractor's/Consultants/ Suppliers)Payment Form(DMI 30)

This form must be submitted with all invoicing or payment requests where there has been subcontracting rendered for the pay period. If applicable, after payment has been made to the subcontractor, "Waiver and Release of Lien upon Progress Payment", "Affidavit of Contractor in Connection with Final Payment", or an affidavit of payment must be submitted with the amount paid for the pay period.

(Modifying or omitting information from this form may result in non-compliance.)

- **Contract No.** This is the number assigned by the City of Tampa for the proposal.
- **W.O.** If the report covers a work order number (W.O. for the contract, please indicate it in that space.
- **Contract Name.** This is the name of the contract assigned by the City of Tampa for the bid or proposal.
- **Contractor Name.** The name of your business.
- **Address.** The physical address of your business.
- **Federal ID.** A number assigned to a business for tax reporting purposes.
- **Phone.** Telephone number to contact the business.
- **Fax.** Fax number for business.
- **Email.** Provide email address for electronic correspondence.
- **Pay Period.** Provide start and finish dates for the pay period. (e.g. 05/01/13 – 05/31/13)
- **Payment Request/Invoice Number.** Provide a sequence number for payment requests. (ex. Payment one, write 1 in the space, payment three, write 3 in the space provided.)
- **City Department.** The City of Tampa department to which the contract pertains.
- **Total Amount Requested for the pay period.** Provide all the dollars you are expecting to receive for the pay period.
- **Total Contract Amount (including change orders).** Provide the expected total contract amount.
- **Signed/Name/Title/Date.** This is your certification that the information provided on the form is accurate.
- **See attached documents.** Check if you have provided any additional documentation relating to the payment data. Located at the bottom middle of the form.
- **Partial Payment.** Check if the payment period is a partial payment, not a final payment.
- **Final Payment.** The check for this period is the final payment period.

The following instructions are for the information of all subcontractors used for the pay period.

- **(Type) of Ownership.** Indicate SLBE or Other.
- **Federal ID.** A number assigned to a business for tax reporting purposes.
- **Company Name, Address, Phone & Fax.** Provide company information for payment verification.
- **Total Subcontract Amount.** Provide the total amount of subcontract for the subcontractor, including change orders.
- **Amount Paid to Date.** Indicate all dollars paid to date for the subcontractor.
- **Amount Pending, Previously Reported.** Indicate any amount previously reported for which payments are pending.
- **Amount To Be Paid for this Period.** Provide the dollar amount requested for the pay period.
- **Sub Pay Period Ending Date.** Provide the date for which the subcontractor invoiced for the work performed.

If any additional information is required or you have any questions, you may call the Office of Equal Business Opportunity at (813) 274-5522.